

AMSTRAD PCW

8000 PLUS

8256 • 8512 • 9512

WHICH PRINTER FITS?

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- FONT SPREADSHEETS
- TRAVEL WRITING
- BUILD YOUR OWN DESK
- ARTIFICIAL INTELLIGENCE
- DTP EXPLAINED
- GOING UP TO LOCOSCRIPT 2
- CPM FOR BEGINNERS

cp software

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- + bidding and play with full information displays
- + post mortem facility
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- + input own hands, save/load hands to disc
- + solves double dummy problems after trick 8
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- + and much, much more

We think you'll be truly amazed at the power of this world beating Bridge

BRIDGE PLAYER GALACTICA, Compatible all PCW's £29.95

NEW

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New PLUSPLUS adds yet more features including

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BRIDGE PLAYER 2000 with TUTOR - "very well thought through, fine display, gets the most out of Bridge on the computer" - PC PLUS

BACKGAMMON - "good implementation, uses the doubling cube properly, good graphics" - 8000 PLUS

DRAUGHTS - "extremely strong play, pleasant to use 3D graphics" - 8000 PLUS

FOUR GREAT GAMES FOR THE PRICE OF ONE

CLASSIC GAMES 4 - Compatible with all PCW's £19.95

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CLOCK CHESS 89 is the strongest and most versatile chess program yet for the PCW.

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"CLOCK CHESS is a lively and interesting opponent. An aggressive program that keeps you on your toes...It dices up Colossus Chess nicely" Mike Basman, UK Chess Champion.

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- + Low level hardware info, ports and edge connect dot matrix.
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- + Full source code supplied.
- + Page in and directly access all 512K RAM segments.
- + Bit mapped keyboard scanner for fast games software.
- + Tips on speeding up video RAM access.
- + Set/reset/test pixels, Linedraw/erase, Fill, reate/plot/move Sprites, New char sets, UDGS, Screen invert, Screen on/off, Sound, Double height/width chars to printer, Joystick, Control disc motor, Software reset, Memory save/load to disc/ramdisc, System clock, Scan keyboard, Full control over dot matrix printer...AND MUCH, MUCH MORE.

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Pascal 80 with tech support	£49.95
DevPack2 with tech support	£49.95
Postage to Europe (per item)	£1.20
Postage ex Europe (per item)	£2.00
UK post and packing included	
card no	Please debit my ACCESS/VISA card

QUANTITY

Expiry date

I enclose a cheque/postal order to the value of:

Name

£

Address

Postcode

Signature

CP SOFTWARE, Stonefield House, 198 The Hill, Burford, Oxfordshire, OX8 4HX
Credit Card Hotline: 0993 82 3463 Telex: 57784 MCCL G

8000 PLUS

OPENING MENU

JUNE MENU

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 SuPer News
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Databases, communications, educational
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Roll up! Roll up!

POST SCRIPT

The writes and the wrongs

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ABC June - Dec 88
 28,200 (15.6% year on
 year increase on 1987)

Want a computerised address book...

group 0/ADDRESS DRI Locofile Printer idle Using M.
Index: Surname Unique Item: Address Col: 4/45 Line: 8/15
Actions f2=Index f3=Print f5=Goto f6=Find f7=Extract f8=Options f9=

Record 15

First name	Surname	Widget Company
Sally	Owen	dustrial Estate
Address		Little Meadow
10 Loraine Gardens		Norwester
Matford		
Lansed		
BR4 8TS		
Home phone 0923 12497		th January 1989
Work phone 091 133 7865		

Ms S Owen
Dear Ms O
Thank you
Superclea
As you ri
indeed fi
range of
I am sure that the Supercleaner M&S will bring you the same satisfaction at
home as you obviously get from the Office Valet Deluxe in your work.
Yours sincerely
Joan Smith
Customer Services Manager

...THAT YOU CAN SEARCH
AUTOMATICALLY?

Goto: +
Record with this key
Next record of current index
Previous record of current index
First record of current index
Last record of current index

... KEPT IN ORDER
AUTOMATICALLY?

Main key type
Alphabetic
Numeric
☒ Date order
☒ Day/Month/Year
Month/Day/Year
Year/Month/Day
Day/Month
Month/Day

...THAT PRODUCES LABEL
AUTOMATICALLY?

Print extract
☒ First name
☒ Surname
☒ Address
Home phone
Work phone
Print
Select all
Select none

THEN YOU NEED LOCOFILE

— the new database for LocoScript 2 on your Amstrad PCW

LocoFile lets you use your PCW for more than just wordprocessing, and it works inside LocoScript so that you can have access to your data at any time.

With LocoFile you can keep information sorted into order and quickly available. It takes just a couple of keystrokes to copy a name and address from a LocoFile address book and paste them directly into your letter.

(Of course LocoFile can handle much more than just address books.)

LocoFile can print your data too. Print just one card, a complete card index, or just the records you've changed so you can keep your existing card index up to date.

And all this is always available — once you've installed LocoFile onto your Start-of-Day disc you can call it up at any time with just a couple of keystrokes.

Please send me the following:

FOR THE AMSTRAD PCW 8256/8512 Name _____

LocoScript 2 & LocoSpell £34.90 ☐
LocoScript 2 £24.95 ☐
LocoFile } for LocoScript 2 £29.95 ☐
LocoMail } £19.95 ☐
LocoSpell } £19.95 ☐

Address _____
_____ ☐
_____ ☐
_____ ☐
_____ ☐
Postcode _____

☐ I enclose a cheque for TOTAL £ _____
☐ Please charge my Access/Visa card
Signed _____

Send to Katy Buchanan at:
LOCOMOTIVE SOFTWARE
Allen Court, Dorking
Surrey, RH4 1YL
Tel: 0316 741606

FOR THE AMSTRAD PCW 9512

LocoFile £29.95 ☐ Note: All prices include VAT and UK postage

LocoFile

For LocoScript 2
ON THE PCW 8256/8512/9512

FOREWORD

There's no fool like an old fool

Of course the converse of the title is that age brings a measure of wisdom. But why should I be worrying my little balding head with these apparent paradoxes?

Well, what's prompted it is the number of letters I get from those lucky enough to be 'retired' from the rat race and using their time to satisfy their own desires rather than those of their erstwhile employers (I'm going to get to the point eventually).

Another piece of accepted lore, at least among the young, is that anyone over forty is incapable of either absorbing change or coping with computer technology. Why is it then, I ask myself (and anyone else who cares to listen) that some of the cleverest, most detailed and comprehensible tipoffs come from retired readers? Why are the best books on computers written by men and women often well past their prime?

The very famous Ian Sinclair is no spring chicken (I asked and he's 57, which means he's published an average of 1,789 technical books a year for life) and he knows more about all aspects of computers than any three other people, unless that person is John Hughes, who is even older and can compute in Welsh, man.

The fact is that the majority of young computer magazine readers are only expert in games software - which often loads itself and requires no more than a joystick for complete control. Many wouldn't have a clue if confronted by a command line, let alone a spreadsheet or database.

So, are all the hundreds of thousands of people who won't see their twenties again (or even their thirties) who've gone out and bought a PCW machine foolish or wise? Personally, I barely considered an IBM, an Amiga, or an Atari. I only wanted an inexpensive business machine for word processing, one I could get some work out of, and I've got it, and I think buying it was one of my wiser decisions.

S Patient

Healthy and Hacking

In response to increasing anxiety concerning the health risks associated with long-term use of Visual Display Units, Computer Valet of Chaddesden in Derby will be sending out free copies of 'Working with VDUs' to the first 50 readers to write and ask for one.

This Health and Safety Executive booklet answers all of the most commonly asked questions about VDUs - including the effects of radiation on unborn babies, whether working with a VDU can damage your eyes or your sight and finally if there is any risk of VDUs inducing epilepsy. It also shows you how to adjust your workplace so that you can sit at your VDU more comfortably.

If you've got any nagging doubts that you'd like to have assuaged or confirmed one way or the other then send a first class stamp together with your name and address to Computer Valet, Booklet Offer, PO Box 89, Derby DE1 9LZ.

Yes. Visible light is a form of radiation which enables us to read the screen, but sensitive instruments can also detect other forms of radiation.

Most of the radiation emitted by VDUs is very much less than that from natural environmental sources such as the sun and all is well below the levels considered harmful by responsible expert bodies such as the National Radiological Protection Board (NRPB) or the UK.

No

The NRPB do not consider that the emissions from a VDU will put either you or your unborn child at risk. They advise that even if you work full-time at a VDU during your pregnancy you will receive radiation which is at least as low as the natural background level in other words it does not add significantly to the natural.

Everything you wanted to know about VDUs.

Quite a Relief

OXFAM, Britain's leading overseas aid and development charity, will be moving with the times when it launches its new appeal for the needy this summer.

Says Richard English, the charity's Appeal Manager, 'We are particularly interested in any games, leisure or home computing software that people no longer need for whichever make or type of computer. By donating them to one of our shops, we can resell them and raise substantial amounts of money to help people suffering from hunger, disease, homelessness and extreme poverty around the world.'

OXFAM, who will be accepting donations throughout June and July in any of their UK outlets, will

NEWS

Disc News

The three inch disc saga continues. The plot twists, turns and thickens while many users begin to reach the end of their tethers. Last month we looked at the story from the Amstrad end. This month the focus switches somewhat.

The basic problem is that there are no UK based 3" disc manufacturers. There are a few disc duplicators in this country but no British company actually has production lines for three inch discs. Consequently UK PCW owners are at the mercy of overseas manufacturers. The distributors in this country, the most prominent being Amstrad/Amsoft and Disk Express, are also in the same position.

Since last year Disk Express have been party to an agreement with Amsoft whereby Disk Express import the discs, normally high quality Maxells from Germany, and append the Amsoft label to them under licence. In short Disk Express pay Amsoft a royalty for the use of the name and the discs are circulated by both firms in the normal manner.

This type of licensee and licensor marketing can in fact work in favour of the consumer because the manufacturer is less able to

play one off against the other and maintain price prices.

However without a UK manufacturer a rather convoluted route emerges for the 3" disc. In effect discs come in via Germany or the Far East, go to Disk Express, on to Amsoft and out to Europe again. What this all means in terms of availability is that many of the companies in the UK who would previously have dealt with one supplier are now having to widen their horizons. From what we have been able to fish from the muddled waters it would appear that the price of 3" discs is not set to go down.

However, any market which has had to crisis manage as the three inch disc market has since Christmas either falls over and dies or gets its act together. The PCW market is not set for the former and from the rumours flying about in the 'business' it appears that things are finally getting sorted out. In fact new suppliers are emerging already.

So, as far as the end user is concerned, three inch discs are alive and kicking, albeit in various directions. Those companies who have been struggling to secure supplies should be in a much better position from now on.

also be grateful to any manufacturer, distributor or retailer who could take the time to sort through software, consumables or even hardware to help the hungry. The majority of donated items

will then be sold at selected London shops during a Special Computer Promotion Month starting on June 27th. Contact Richard English on 01 585 0220 for further details.

Dingbyte

Which well known computing word or phrase is represented by the picture. Don't know? Find the answer on page eight.

Variable

'Calling all User Groups ... !'

Treetops of Draycott, Derbyshire, is a hospice which offers 15 day places and 10 beds to the terminally ill. In order to open next year, however, the hospice needs to raise £1,250,000.

On the 16th July, therefore, the hospice, backed by Radio Trent, has been offered free use of Donington Park racetrack, where a sponsored walk, cycle ride and cycle race (featuring international riders) will be taking place.

Sue Basker, member of the Executive Committee, has prepared a database for her PCW 9512 to register the 7,000 walkers and 3000-odd cyclists whom she expects to take part.

The main stumbling-block is that we can only muster two 9512s from our members, and we need at least 15 to 20 to call on. The computers will be used under cover and will all be fully insured.

Sue would very much like to hear from any readers or user groups who would be willing to go along to Donington racetrack, with their machines, to act as registration marshalls. Says Sue: 'It would be great for a user group to find out how to use Masterfile 8000 and help us at the same time. The day promises to be very enjoyable in any case, and family and friends could come and take part in the events as well - the more the merrier!'

If you're interested in helping a good cause, contact Sue Basker, through Ellen Brown at Treetops, on 0602 391748 or at her home on 03317 2358. Be sure to leave your full name, address and telephone number if you can't speak to her in person.

Light Pen Fantastic

Composit Software, creators of SketchPad, a PCW drawing package, are in the midst of Beta testing some new software for musicians and composers.

Beta testing a product entails sending it out to a few selected individuals who then report back on their findings. In the case of The Composer's Pen, the working title for the program, it was sent to various composers and music schools. Composit have received some very encouraging feedback.

According to Composit the program is a note processor. Essentially it will allow composers - remembering that both Beethoven and Tony Hatch are considered to be composers - to get raw ideas onto the PCW and then manipulate this information. This will take the drudgery out of what should be a creative act.

At the moment the products available for this task are few, far between and fabulously expensive; at least by PCW standards (and are all on other machines).

Composit claim that their product will be able to meet the

current competition with features such as full control of note and stave spacing, up to 99 lines of music, up to 20 note chords in any line, text and music symbols and complex triplets (you know, where you play a group of five notes in the same space as you would normally play three - that kind of thing), and all for under £70.

Input is achieved via the standard PCW keyboard. This is reconfigured to provide a cluster of keys which allow the seven whole notes to lie under the left hand while notational symbols such as sharps, flats and demi-semi-quaver-crotchets lie under the right.

This would seem to be an exciting addition to the PCW software collection and one which we shall be reviewing just as soon as possible.

Two versions are planned. The full implementation to cost £65 while the pocket (that is 'stripped down') version will retail for about £25.00. For further information the people to contact at Composit Software are A C Murray on 0952-586979 or Mike Baker on 0521-456-1967.



Compose on the screen - print on the printer. The music processor arrives.

Shouting in the Library

The Public Domain (see page 57 for more news on this subject) is a much underrated, misconstructed, fertile and cheap area of computing. As far as the PCW is concerned the Public Domain is burgeoning.

To add to its stock is the PCW-File public domain library. PCW-File began life (but has since unhappily passed on) as a user group and amassed various programs and utilities of interest to their PCW using members. While PCW File is dead, the software library lives on.

These programs range from games to text editing utilities and comes packages. The best thing about them is the fact that they are for PCW enthusiasts and they are cheap.

There are various ways of accessing this particular Public Domain library. If you would like a catalogue of the files on offer you should send either a 42p stamp and A4 envelope (if you want a printed copy) or a disc, and a stamped addressed padded bag to: Bob Ellis Public Domain Software Library, 'Rowan', 100 St Peters Close, Moreton-on-Lugg, Hereford, HR4 8DW.

There is no charge for the catalogue. If you wish to try out a sample, sight-unseen, you should send a £1.00 copying fee along with the disc and bag.

Finally, if you use any of the numerous desktop publishing packages available for the PCW you might like some new clip art. Digitized photographs of various subjects (from Gorbachev to a motorbike) are available. These cost £2.00 but your

CLUB

NEWS

This is a brand new section given over to PCW-related clubs. When we say PCW-related we mean just that. If you are a member of a user club or if you use your 8512 to run a horticultural society we would like to hear from you. We will be pleased to include information about up and coming meetings, interesting speakers, competitions - in fact

anything in which the PCW and its users have an involvement. Send your Club News to Club News, 8000 Plus, 4 Queen Street, Bath, BA1 1EJ. The inclusion of black and white photographs or colour transparencies (we can only use these kinds of pictures) would be greatly appreciated.

Jam at the M25

Last month's feature on clubs included a visit to the Middlesex PCW Computer User Group and an interview with group secretary Ken Ritchie. Ken travels from Hertfordshire, a one and a half hour journey, in order to attend the weekly meetings. In the last few weeks his phone has been jammed with calls asking for more information on the Group.

Here are the basics once again; there is no fee for the first meeting, as Ken says "... we like people to see whether or not we suit them.", after this there is an annual membership of £2 and you pay £1 for each meeting. These charges cover the cost of booking a hall and paying for electricity.

The group consists of users ranging in ability from experienced programmers to people who regard C/P/M as an ancient curse. All standards are catered for and the underlying philosophy seems to be that it's more fun to learn together. For more information send an SAE (but no money) to Ken Ritchie at 5 Rib Vale, Hertford, SG14 3LE.

Shady practices

As you all know by now PCW File (Shouting in the Library) is no more, but one person at least seems to be speaking ill with the words of the dead. Like all organisations, PCW File had a list of subscribers which appears to have fallen into the hands of someone sending

out chain letters.

These letters apparently ask you to send five pounds to any one of the five addresses (four of which appear to be variations on a single theme) included on a list in the letter whereupon you will get a 'report' explaining how to make money. You are then invited to send the letter on to other people.

Get rich schemes generally do not work, otherwise none of us would need to get up in the morning. Chain letters generally are very unpleasant articles and such blatant appeals to greed are vulgar.

We would be interested to hear anything you might have to say on the matter.

contribution is going to the Myalgic Encephalomyelitis Association. Again you should send a disc and padded bag but this time to Dave Axford at, 18 Sunbrow, Haslemere, Surrey, GU27 2QP.

C Port? Yes We Do.

Some of our readers have been having problems getting through to C Port over the last few weeks. They have not closed down but have had trouble with the builders and a certain telecommunications company (yes, the one that used to be part of the Post Office). The former, according to Martyn Wilkinson at C Port, showed some "carelessness" in the refurbishment of the company's London office and cut off the phones. The latter have been causing some problems in re-connection.

Everything is okay now. C Port are in fact working on a new system for file transfers between the PCW and Cambridge Z88, a portable computer appreciated by many PCW users (see page 40).

For more information call C Port on (01) 376-5098.

A Picture of Health

The PCW has been an established desktop publishing tool for some time now. With a new product from Rombo Productions the future looks, or rather scans, even better.

Rombo claim that their Vidi-PCW brings to the PCW owner the ability to actually grab a frame from videotape and convert it into clip art. Consequently you will not need to scan a photograph or photocopy of your favourite moment and lose quality. For example, you might have shots of Ian Botham at Lords or Cousin Agnes at Luton, you can use VIDI-PCW to capture the moment and then transfer it to your Stop Press, Desktop Publisher or Fleet Street Editor documents.

An interesting extension of this is that Vidi-PCW will also do the reverse. That is to say that it can transfer screens directly from the PCW onto videotape. This is achieved via an expansion port providing, among other things, Video Out. So, if you need to live on a spreadsheet presentation or you would like to see some time-lapse Mandelbrot this might be the machine for you.

As yet we have only seen sample output from the Vidi-PCW. We've not had the chance to review the equipment but as soon as we do we'll let you have full details.

Normally the Vidi-PCW costs £99.95 but for a short while readers of 8000 Plus can buy it for £79.95. Rombo Productions can be contacted by telephone on (0506) 414-631 or by Fax (0506) 414-634.

PCW in Action. Take One!

If you've only got a few frames of film or the odd photograph which you feel should be immortalized on the PCW but don't want to spend £80 on a digitizer (see A Picture of Health) you might like to know about a service being offered by London based Belmar.

They will digitize any photograph or frame from a video tape that you care to send them. The main proviso is that all copyright details have been checked and dealt with by the customer.

When sending in videotape you must be sure to send a detailed guide as to whereabouts on the film you wish the frames to be taken. The company claims that it can get 29 full screen images onto a 720k disc and the quality of all 29 will be high.

If you need an illustration Belmar have a stock of digitized works to sell which might solve a

problem for you. You will need to send them some quite exact specifications in order to achieve the best results.

Belmar offer the various services on either 3" or 5.25" disc. Prices start from £10. For further information you should contact Belmar at PO Box 614, London E18 1NJ.

VAT Imposed on the Press

The budget may not have put the price of cigarettes up but it has imposed VAT on Micronet. This is an electronic computer magazine which can be accessed via British Telecom's Prestel network. Micronet provides information, news, reviews and other items of general computer interest.

In effect it is a magazine which happens to be distributed electronically rather than on paper. All other journals, newspapers and magazines are zero rated for VAT making Micronet a test case. David Rosenbaum, the Micronet Product Manager says "We're taking a stand

because we don't believe that there should be tax on information and we don't believe there should be different rules for electronic media."

The reason given for this application of VAT on electronic media is that unlike paper based systems they do not supply information direct to the consumer. The inference is that the information gained from the likes of Prestel, Reuters and Micronet is used by business people only and that they relay it to the final consumer.

A protest against this levy has thus far gathered a petition of 3000 signatures from Micronet members. This has been presented to Nigel Lawson. All of the 'signatures' were collected over the Micronet system and came from residential consumers.

If you would like to know more about either Micronet or this issue you should contact them on (01) 278-3143. As an added incentive they are retaining their pre-Budget tariff of £79.95 until June 30th 1989. This price includes a free GEC Datatouch modem.

Prestel For Action

Four new magazines have come out over the Prestel system (see also VAT imposed on Press). These are Newsday, Sportseye, Look! and Games City. Seven days a week, twenty four hours a day...it should be like flicking through a newspaper (until it gets hit by VAT that is). For more information call Helen Sullivan on (0442) 237-370.

Beg Pardon

In last months Quickies we reviewed a Thesaurus from Three Inch Software. We also printed the wrong telephone number. The correct one should be; (01) 546-2754. Sorry, or should we say pardon, or apologies.

High Quality Printing

If you'd like the use of a laser printer in order to get the most from your work then Sigma press are the people to talk to. They will also transfer data from 3" disc onto 5.25" or 3.5" (IBM compatible) and vice versa. The person to contact is Graham Beech on (0506)414-631.

Trivia

IMC games and Cartographic Software are running a UK Trivia Treasure Hunt, which sounds like a fine idea. We were going to review a copy on your behalf as it looked like the kind of game to cause argument in the 8000 Plus office. Unhappily our review copy crashed rather heavily leaving us somewhere in Arbroath without a paddle. If you would like to find out more about the game phone IMC on (0604) 54814.

Right Little Modem

Hi-Tec Supplies have a new modem on the market called the EC2440. It features MNP level 4 Error Correction (which is fine if the person you're calling has the same) and MNP level 5 data compression which is supposed to speed up the data transmission. It's built in the UK and costs £279 (inc VAT). Call Hi-Tec on (0733)52-440 for more details.



Yes, it looks like a modem and it is. Despite the fact that it looks like all the others it would appear to be good value for money.

Answer to Dingbyte: String variable



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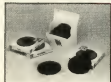
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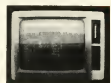
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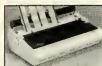
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TIME FOR A

There are many reasons why you might want to buy a new dot matrix printer

So, you're halfway through printing out your eighth novel and the printer that came with your PCW has finally died. As soon as you've finished panicking you have an important decision to take: Is it better to have it repaired, or should you buy a new printer? The repair could take some time and prove relatively expensive and while buying a new alternative will be dearer still you can have it instantly and gain both speed and portability. The growing number of PCW owners taking the second option show that speed and freedom are powerful arguments.

And what about the 9512 owners? The arguments in favour of buying a budget dot matrix printer to add to your 9512 are so good it certainly isn't worth waiting for your daisy wheel to die before breaking out the chequebook.

For the PCW owner there is no question of going more than a few days without a printer. Since those who make heavy use of their printers are inevitably going to reach the point where the original fails (in most cases simply wearing out) it's worth considering the best action to take when this happens.

Of course you could have the PCW printer repaired, and many do, but like all mechanical creatures the printer has a finite life. Once one part wears out the rest may not be far behind. Repairs are getting more expensive these days, and the delays in getting parts are becoming less of a joke.

Bearing these points in mind it can make a lot of sense to go for a standard budget dot matrix printer instead of a repair bill (there is one final advantage in that you will be able to use the new printer on any other computer).

With so many good reasons for buying a new printer we decided to check out five dot matrix printers in the sub £200 range. Each of these comes from a different, well known manufacturer and all are currently being made. While it is possible to buy discontinued models at even lower prices inevitably they will have less features and are generally no longer supported by the original manufacturer.

While not all five of these printers are available at less than £200 direct from the manufacturer all can be bought from various distributors at heavily discounted prices, so it pays to look around and compare advertisements.

Pin number

A bit of background on dot matrix printers can help you make the right decision when you come to buy one. The first thing is to understand why they're called dot matrix (8000 series owners can skip this bit). Unlike a daisy wheel printer a dot matrix has to build its letters up from a series of dots. The print head of a nine pin dot matrix printer has nine tiny pins arranged vertically which are fired into the ribbon as the head moves across the paper. Since the pins

can be fired in any order, to produce any pattern, it's relatively simple to alter the typestyle part way through a document, line or even in the middle of a word.

The pins can be fired in patterns that produce pictures or letters that take up more than one line. The same pins can produce a wide variety of type styles on a single machine. Because the pins can be fired very quickly dot matrix printers can be made to work at hundreds of characters per second (though the cheaper ones are naturally slower) and as all owners of 8256 and 8512s know, dot matrix printers are inherently reliable.

The difference between the dot matrix printer that comes with the PCW and those you can buy in the high street which suit any computer is that the PCW printer has no real electronics of its own and is driven directly from the PCW, which is why it can't be used on other computers.

Separate printers come with a wide range of abilities built in. They will have their own typestyles held in ROM and will obey a wide variety of commands. The Star LC10, for example, can be instructed to set margins, typestyles, pitch and so on, irrespective of what your word processor wants to do, or alternatively, to obey the control codes sent to it.

In code

The subject of control codes can be a bit confusing. Most 9 pin dot matrix printers are of a type called *Epson compatible*, which simply means that they will obey the same Escape Codes (sequences that begin with the number 27) in the same way that an Epson printer will. This is known as a *de facto* standard (which usually means everyone except IBM adheres to it). It's always worth checking that the printer you intend to buy will obey Epson codes – it will save you a lot of trouble in the long run, if only because the PCW and all of the software written for it puts out Epson codes to the printer by default.

There are some tradeoffs if you buy a different printer for the PCW; LocoChar won't work with other printers and you lose the ability to do a screen dump with [EXTRA][PTR], something that LocoScript 2 has lost anyway. The only other real loss is that you won't be able to control it from the Printer Status Line (on most printers the same controls are built into a front panel for direct control). Apart from these using a new printer will be exactly the same as before.

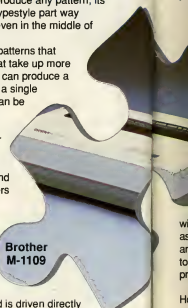
The following five printers were all tested on our office PCWs, the prices are as advertised but excluding VAT. We've listed the RRP (Recommended Retail Price) but we've also had a look around to see just how low a price we could get. Most printers are discounted heavily by mail order companies but not usually by so much in high street stores. It certainly pays to have a good look round before



Star LC-10

Flexible friends

When buying anything mail order use a charge card like Access or Visa and try to order from a member of MOPS, the Mail Order Protection Society. If there is any subsequent problem with the supplier it's the card company who have the argument with them and not you. Knowing you aren't taking such a risk is a great help when trying to get to sleep at night.



Brother M-1109

A CHANGE

ma fix printer. Steve Patient considers five budget alternatives

you decide.

The speed of a printer is important, especially if you need to print large amounts of text. We did our own tests using a standard single page letter of two thousand characters, printed out in draft and NLQ and timed using a stopwatch. They bear little comparison with the manufacturers' stated speeds, which is normal. Most

manufacturers are somewhat economical with the truth and do rather unrealistic timing tests; like printing a single line of full stops! To get a realistic estimates is to print out the kind of text you intend to use the machine for.

Star LC-10

This is a printer with curvaceous looks. Even the box it arrives in is attractive and comes complete with its own built in carrying handle. There's very little assembly required, clip on the ribbon cassette (styled like an electric typewriter), push on the roller knob and it's ready to go. The tractor feed is built in and there is a paper guide provided as standard.

Operation is from a touch sensitive front panel. Holding down various of these when the printer is turned on provides different modes of operation; for example it can run self tests or be instructed to ignore codes from the computer and accept instructions only from the front panel. The front panel gives you access to all three type styles plus italics, draft and NLQ.

The documentation is very complete, including a ring bound manual (with an index) listing everything you could ever want to know about the LC-10 and its operation: connector details, printer codes, front panel operation and dip switch settings. There is also a crib card for the front panel operations and a sticker to put on the machine with the same information if you want to.

In use the LC-10 performed flawlessly. Fitting continuous paper is simple and involved no more than clicking off the cover at the back, flipping up the guides over the sprockets and winding the paper through. The paper parking feature, which allows single sheet paper to be used at the same time, is operated from the front panel; press ON/OFF LINE, hold down the PRINT PITCH and press PAPER FEED (now you see the reason for the crib sheet, it isn't an intuitive process) and watch in amazement as the continuous paper is sucked back out of the way and the machine is ready to accept cut sheets. Pulling the ball bar forward restores the continuous paper to the correct Top of Page position. This facility also allows you to feed paper out, tear off the sheet and automatically reposition the paper in the printer without wastage.

The LC-10 printer is elegantly designed, takes up a surprisingly small amount of desk space and the built in typestyles are all clear and attractive. One of the more expensive machines we tested but very desirable.

Brother M-1109

This machine was the smallest of those tested and will probably prove the cheapest to buy. It has some unusual 'features'; for example, there is no ball bar. The paper feeds in at the back, around the platen and close under the front

cover. This works but the paper isn't as firmly held as with a ball bar and there is some movement while the print head crosses the platen. In fact movement is quite noticeable with this printer, the whole thing twists quite alarmingly when picked up.

The M-1109 was rather slow and noisy in operation and the print proved noticeably dotted even in NLQ. The print styles such as bold and italics can't be selected from the front panel, in fact very little can, but as a consolation prize all the dip switches are accessible at the back and it does come with both a serial and parallel socket as standard.

The tractor feed comes in with the price but because it clips onto the top (a bit like the standard 8000 series printers) you can't use continuous and cut paper at the same time, however, swapping over isn't too difficult. As with all the printers the attempt was made to get it out of the box and up and running without looking at the manual, and it proved particularly easy with this machine.

The small size and clean lines of the M-1109 proved popular but once heard running (and rattling) enthusiasm dropped. It dropped still further when the finished result was examined. Probably not a machine you'd choose for correspondence but if you're primarily looking for something to print out your listings and hex dumps on then this could prove the very thing.

Panasonic KX-P1081

This printer, in various incarnations, has been a favourite with the computer fraternity for some time, and deservedly so. It's simple to use, solidly built, can be bought at heavy discounts and is very reliable. However, it does look a little old fashioned by today's design standards and is quite large, certainly one of the bigger machines we tested.

One of the few caveats that could be applied to the KX-P1081 is that it doesn't have a proper ball bar. If you're using cut sheet paper it's necessary to physically tuck it under the tear bar. Until then, though, paperfeed is semi-automatic. If you mainly intend to use continuous paper then this printer is good, but again the tractor is of the pull type meaning wasted sheets as you try to get your last sheet out.

You can't use cut sheet without removing the continuous paper, but it is extremely easy to fit and remove. With continuous paper fitted the lid can be kept in place which makes the printer quieter as well as giving it a smart appearance.

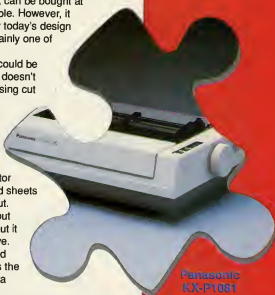
Selection of draft or NLQ is from a switch mounted at the left of the printer. The front panel on the other side provides the minimum ON/OFF Line, Line feed and Form feed. As usual, combinations of these buttons held down on power-up provide self test features and a Hex dump. There are no alternative typestyles.

The manual is clearly laid out and indexed, which is always helpful, and includes sample Basic routines for some of the more complex procedures like

Devious devices

The built in 6812 Centronics port will only work properly if the original printer is still fitted. If you remove it the PCW may not recognise your new printer.

To redirect printer output to the 9512 Centronics port in CP/M you need the DEVICE utility. The command is: DEVICE LST=PAR if you have a parallel interface fitted (9512 and 8000 series) then the command is: DEVICE LST=CEN



Citizen 180E

Facing up to it

8250 and 8512 owners need an interface to attach a second printer. The original Amstrad CP8250 interface is still available but tends to be a bit dear. It is, however, guaranteed to be totally compatible with the PCW. In fact the interface is a fairly straightforward piece of electronics and you are unlikely to have problems with those from third party manufacturers.

downloading user defined characters. You can't have a complete alternative character set, the maximum allowed is forty.

Citizen 180E

An earlier version of this printer proved very popular due to heavy discounting, but it was due for an update. The 180E is a nice looking machine, almost as small as the Brother we tested but with a far more solid feel about it and can be bought with either serial or parallel interface. Without the tractor unit fitted (supplied as part of the package) the 180E can be used for cut sheet paper without ever lifting the lid; the automatic paper loading works very well and is a professional feature now appearing on more and more budget printers.

The 180E allows selection of one of two alternative typescripts as well as italic, draft, NLQ, emphasised, reduced, double height/width, and quadruple height and width all from the front panel, but since the only indication you get is a single flash of light each time a change is made you have to keep careful count.

As with most printers this one was ready to go and we were able to print out two thousand character document and do our timing tests without using the manual. The 180E manual is very good, however, including not just details of the printer and character set but extensive instructions on designing and downloading your own characters and even sample Basic programs showing how it's done.

In use the draft printing proved particularly fast, perhaps too fast since it left a very poor impression on the paper despite having a new ribbon fitted. This wouldn't have mattered so much if the NLQ had been good,

unfortunately it wasn't all that hot either. NLQ text proved fairly slow to print and failed to produce a hardcopy of a quality we thought acceptable.

Perhaps if we hadn't had our hopes raised by the look, feel and features of the 180E the disappointment wouldn't have been so acute, but in the final analysis a printer just has to produce good printout, while better than the Brother M-1109 this printer didn't quite come up to the mark.

Amstrad DMP 3250 di

Amstrad have adopted a rather eccentric design for this printer (which is the upgrade to their 3160). It has a virtually straight cut sheet paper path, with the paper coming in at the front and the print head pointing straight down.

Feeding paper in at the front makes the printer easy to use; the guides are built into the bottom of the tractor feeds and allow precise alignment, something that proved awkward on most of the other printers we tested.

Despite having a push type tractor feed the two kinds of paper cannot be used simultaneously, but it is easier to change from one to the other on this machine than on the others we tested (with the exception of the LC-10).

In use the DMP 3250 di proved rather slow and ratty, though the actual print quality is reasonable. What struck us most forcibly was the vast difference in stated and actual printing speed. All of the printers tested ran much more slowly with our test letter (2000 characters on one page of single line spaced text) than their stated speed claims but the Amstrad machine was so vastly out of line that we redid the test; and it was exactly the same.

Amstrad claim 160 cps in draft; we found an actual speed of 66 cps. In NLQ mode the printer is only fractionally faster than the built in PCW printer and lacks its flexibility.

Even as an entry level printer for programmers this printer would not be a good choice. It just isn't good enough to give a piece of equipment futuristic styling and keep the stone age performance.

Final thoughts

What should you look for in a printer? Obviously, there is an element of personal preference involved, but some features are worth having. Auto loading of cut sheet paper is convenient, as is being able to control as much as possible from the front panel. This allows you to print the same document in a variety of ways without altering the file.

If you need tractor feed then a push tractor saves paper and paper parking saves having to remove the continuous paper if you need to do the occasional letter. A proper bar bar works better than the alternatives and is worth looking for. Finally, and most important, check that you like the printout - you'll be seeing a lot of it.

The standard of documentation with all the printers we tested was extremely high, far more so than any other home computer equipment you're likely to come across. In fact when your printer has a better manual (indexed even) than your software you might be forgiven for wondering where the computer industry's priorities lie.

None of the printers came with a 36 way to 36 way centronics cable, and one of these will set you back anywhere from five pounds (for a ribbon cable with plastic connectors) to about fifteen pounds (for a shielded multicore cable with metal ends). Most mail order companies will throw in a ribbon cable if asked.

Which one would we go for? Thought you'd never ask. Of those we tested the pick of the bunch was definitely the Star LC-10, and if that seems too expensive our second choice would be the Panasonic KX-P1081. The Brother printer is one to avoid however much it's being discounted unless your only interest is in listings.

Nine into twenty four

Cleary this isn't done work well. 24 pin printers have two rows of 12 pins offset slightly so that one row fills in the gaps the other leaves. When sending characters this allows the printer to work faster and produce a better defined character.

The problems come when trying to send graphic data to the printer. It works, but not well, and you tend to end up with stretched out images.



Amstrad DMP 3250 di

Daisy can't

The only real drawbacks with the 9512 package relate to the limitations of the daisy wheel printer. Because of the way they work daisy wheel printers are always going to be noisy, relatively slow and will always cause you problems if you want to change text styles. And as for graphics, they're non starters.

Recognising these inherent limitations Amstrad made provision for attaching a second printer, and all 9512s come with a centronics port built in (which they call a parallel port in order to avoid confusion with the Centronics port on the interface. In fact they perform the same function).

The wish to use a variety of print styles, to do fast draft printouts and to produce graphics, means that 9512 owners are actually more likely to buy a second printer than 8000 series owners, and it will always be a dot matrix. If you aim to do graphics (the kind of thing a desktop publishing package produces for example) then you should buy a nine pin dot matrix of the kind discussed here since no PCW graphics package currently support the 24 pin printer.

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PIECES OF EIGHT

If you've finally decided to connect your PCW to everything and get it running the house then an input/output module is an essential tool

INPUT/OUTPUT MODULE

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One of the more satisfying/amusing occupations for computer enthusiasts is persuading the machine to step outside its skin and do something in the world beyond the glass front. PCW owners do this every day, of course, with their printers, but there isn't the same satisfaction there as in persuading it to draw the curtains, turn on the lights, or turn off the television when Neighbours comes on.

For any control application there are two components to be considered: the hardware and software. Most of the electronic hardware required to interface the PCW with the world can now be bought off the shelf (much of it from SM Engineering itself), but you generally have to take care of the software side of things yourself. This is where a test module can come in so useful.

The module comes as a circuit board with a connector for the parallel I/O interface (which SM Engineering also provide (see issue 15)) and a through connector on the other side. This allows the test module to be in-line with any equipment you're interfacing; naturally you need the interface to get anything happening at all.

On the board are eight LEDs (Light Emitting Diodes) and eight small toggle switches, one for each LED. Each LED represents one bit of the eight bit byte which the PCW can send or receive via the expansion port.

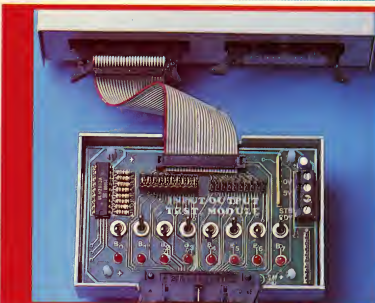
Port: enough said

The ports in the PCW are a bit of a mystery to most people - even what they are can be hard to understand. The Z80 has 16 address lines which allow it to address 2 to the power 16 memory locations (gives 65535 bytes of RAM direct addressing), but it can also do a different kind of addressing; it can address a port.

A port is a way for the Z80 to address devices attached to it - such trivia as the screen, the keyboard, the printer, all the extra banks of RAM and various internal chips are all contacted via ports.

When calling a device using a port the Z80 only uses the upper eight address lines to specify the port number (which means only 2 to the power 8 (256) addresses and so only 256 output devices) and the lower eight address lines to carry the actual value being sent or received; it's all quite simple really.

The addresses and effects of most of the ports used by the PCW aren't available to the general public (or even us) but those used by the expansion bus are. These are thoroughly detailed in the documentation supplied by SM Engineering.



The input/output test module is simple to use, works well and comes with documentation and programs, but it is expensive.

If all the switches are pushed toward their respective LEDs, then the Test Module will show the state of bytes output from the PCW - always assuming you are sending some. If you want to test the effect of receiving a particular byte then the board can be read; simply set the switches that represent the bits you want on (logic 1) toward the LED and those that represent off (logic 0) away from the LED. Reading the relevant port will now show the byte you wish to receive and you can check that your software is responding as it should.

For anyone involved in using the PCW to develop control applications, some means of checking whether the right signals are going in and out is essential; of course you could put something together yourself (you couldn't? that's hard to believe), but it is worth the effort when you can buy something off the shelf.

The fact is that the test unit is well-built, easy to use and comes with sample programs to show how to use it. Though expensive, if you're involved in the

sort of work that requires it, the test module is a good buy. As an aid to teaching the interaction of computers and the (more) real world it would be excellent. ■

```
5 REM Output byte via port A channel 1
10 REM Adapted from S Marks
20 OUTCODE=15
30 CON=170
40 DAT=168
50 OUT con,OUTCODE
60 PRINT
70 PRINT "Number input from keyboard will be displayed"
80 PRINT "in binary format by the LEDs on the Test Module"
90 PRINT "press STOP to exit"
100 PRINT
110 INPUT "What is your first number ";NUM
120 PRINT:PRINT
130 IF NUM<0 OR NUM>255 THEN PRINT "0 to 255 only" ELSE OUT dat,num
140 PRINT
150 INPUT "and your next number ";NUM
160 GOTO 130
```

This little program will work the lights on the board, a trivial thing to do but it does show how to output bytes via the expansion port and check that you are getting the right values.

Mere details

If you're a techie who's worked from technical types know so much about the finer points of chips that now we'll test you; they read the manual. The manual in question is the data sheets on the Z80 family of microprocessors and support chips, available from SM Engineering for £4.95.

TEST MODULE

PLUSES

- ▲ Easy to use
- ▲ Well documented
- ▲ Programs supplied
- ▲ Through connection

MINUSES

- ▼ Expensive
- ▼ You need the interface

SMART

Thinking of buying a PCW? So was Peter Hadleigh. In exchange for his

Sometimes we here at 8000 Plus can get a little biased about the problems confronting newcomers to the PCW. Vistas of opportunities can seem like insoluble problems and the pitfalls appear dauntingly deep. With these thoughts in mind, we're starting an occasional series following the progress one newcomer makes with the PCW. Without further ado let's be off to Ludlow.

Out Shopping

Like most computers under £1000, these days the PCW is a commodity item. This means that no matter where you buy it, the contents of the box will be the same. With more than three quarters of all stores that stock computers currently carrying PCWs, there's no problem finding one, and as our recent survey demonstrated, they all know about the same when it comes to offering advice - which is extremely little.

With this in mind, we chose to buy from somewhere convenient that would

offer as little hassle as possible. It turned out to be Dixons in Shrewsbury - a long way from Ludlow, true, but that's how things went.

We agreed to buy Peter an 8256 which seemed adequate for the kind of things he wanted to do, leaving the way open for a later upgrade if one is needed.

Remember that while all the machines are tested and working before they go into the box, the journey from Korea is very long - and there are a few bumpy bits. So we insisted on getting it

out of the box and testing it again in the shop. A good thing we did since - much to the consternation of the salesman - it duly failed to work. All we got was a greeny glowing screen and nothing else. It simply refused to load either LocoScript or CP/M.

In the end we took the shop display model, at a discount, which was a good deal. We knew for certain that it had been running for weeks with no problems; generally, electronic equipment either fails within a few days or not at all. Now read what Peter has to say.



Confusion all round as the PCW refuses to work. Test equipment in the shop before you buy. After all, it's easier than taking it back.

The thought of getting a computer had been with me for quite a while, but models, features and storage capacity meant very little to me. I was thoroughly uninitiated in the ways of computers. Still, the chance to have one and write up my attendant experiences seemed a great idea. My initial enthusiasm was immeasurably dented, however, when everyone I spoke to in the trade about computers reacted in one of three ways: total cynicism, they'd either attempted to work with them and given up, or had previously held down computer-related jobs and were prepared to sell machines and/or software. I assumed that these attitudes were largely generational (at 28 I am one of the youngest members of the trade) or the product of a small trade where eccentric behaviour is usually considered to be the norm.

Still, the computer would be a great help with stock and particularly for accounts. (My accountant was not very keen; a casual mention of this impending computerisation in a phone call led to his weary voice explaining that he'd had many smaller clients who had taken the leap but eventually given up. If I was to continue with this, I must keep a separate written record of everything, he insisted!)

A conversation the next week with a London bookseller delighted with going back to his box-file after four months on a computer saw my enthusiasm in danger of giving way to a migraine. My attempts to relax were hindered by all the problems I had programming the video purchased at the same time as the computer. Clearly, I would have to develop a working attitude towards this technology.

Rootin' tootin' typeritin'

As outlined above, I did not expect anything earth-shattering from the machine; if it had any functions beyond being a typewriter with a storage capacity, they would have to be learnt. 'First Impressions of LocoScript 1 and Setting Up Your Own Template for Correspondence' were my first tasks.

Keeping the manual very close at hand, I was impressed at how quickly the introduction deals with the keyboard and any obvious errors. Chapter 2 ('Your First 20 Minutes') did a little to increase my confidence. However, being in possession of very dodgy keyboard skills myself, I was much impressed at the speed with which errors could be corrected using the cursor keys.

Moderately encouraged, I thought it was high time to investigate all those suspicious-looking function numbers which had looked a little intimidating at the top of the screen, and print out a simple letter. After following closely the procedure outlined in the exercise this seemed straightforward enough. However, inserting a sheet of paper in the printer and getting it to actually print

MOVES

ger his experiences (with the PCW of course), we bought him one.

it out proved harder than it looked. When I retraced my steps through the instructions, there seemed little wrong. Getting a little annoyed, I phoned a friend whose only useful advice was to check the printer's connections - they were fine.

A few minutes later it dawned on me that the printer was simply not keen on loading a thick laid paper and therefore required some encouragement. After a couple of creased sheets had ended up in the bin, this problem was dealt with. Talking to another 8256 owner later, I discovered that he had had the same problem initially but after some coaxing this had been resolved. Well, the initiation had been painless enough, now to the template.

Customer query

Central to the antiquarian book trade is its informality: customers (when one is lucky enough to find them) seem to relish a personal touch with the result that many become friends. The last impression, then, that I wanted to give was that I had been phased out and replaced by a computer. Therefore any template had to be flexible enough to cope with the many situations in which I conduct business.

Upon consideration, it seemed that it would be most suited to fairly standard enquiries about certain items in stock. A typical request (usually a follow-up to meeting someone at a book fair) is for a list of titles, held either by author or subject area.

Now to set the thing up; out came the manual again (p125) and I was quite happy typing the information in to answer a customer's request. Not wanting to get in over my head too soon, I thought I'd leave the margins as the computer seemed to like them. So it was time to try a printout.

I should have learned from my previous experience with the printer; it wasn't going to be that easy. This time the printer accepted the paper without much protest, but the position of the text was another matter. I carefully positioned the paper so the ribbon lined up with where I wanted the text to start, but of course I hadn't realised that the printer would wind my paper on after I'd put it in!

Despite the slight problem of my name disappearing off the bottom of the paper - hardly the way to start a customer relationship - the quality was much better than I'd expected, my sole previous contact with printouts having been near-illegible bills and junk mail.

Bold moves

But, it now occurred to me that my text wasn't any different from a typewritten letter, and being so short it hardly merited the attention of my new Amstrad. So, I looked through the manual to see what could be done to make the text more attractive. The section on bold and italics caught my eye, and I realised that here was

something which would really set my letters apart from mere typescript!

It was confusing at first, not being able to actually see my elegant italics and powerful bolds on the screen, but after checking their position several times (and then checking again) I thought I'd give the printer a go and see how they came out.

So I crossed my fingers (second time lucky), did a complicated mental calculation and deliberately left the paper just in. Missed by an inch. Damn it. On the third time everything seemed to go smoothly, producing quite an elegant result. The different type styles really did make things clearer (particularly the bold to separate off different titles). After all this trouble, I trust Mr Howells will develop into a profitable customer!

Now that I'd actually used the 8256 in the course of business for the first time, I was ready to put it to work on what I see as its most useful function at 20th Century Books: the catalogues! The first one on the computer will be a hundred-item list of new acquisitions, and now that I've got this flexible word processor (and all these type styles!) I should be able to save on the local printer's bills. If only the 8256 had a built-in photocopier too...

Peter Hadleigh himself

After completing a degree in English and Film, my most obvious career (if not the only application) was teaching. Not being terribly excited at the thought of doing this, I decided to become a secondhand/antiquarian bookseller (the distinction is still much argued about). At first my idea was to catalogue and to sell through book fairs, but in March 1986 the chance to move to Ludlow and buy a bookshop that was already established proved irresistible.

The town lies roughly halfway between Hereford and Shrewsbury, close to the Welsh Border, and is probably most familiar as the setting for the television adaptation of Tom Sharpe's 'Blott on the Landscape'. Mention of the town usually elicits one of two responses: 'Where?' or 'I love Ludlow, you are lucky to live there, I remember when...'

One of the most telling points about the trade is the reliance for business on other traders; often the only customer for a given item is another dealer, usually a specialist one. I have continued to specialise mainly in 20th century literature and illustrated books, and keep a stock of around 600 - 900 items in these subject areas.

Naturally, having a shop open to the

general public has meant keeping a more general stock as well and distracted me from dealing in the books I find particularly interesting. The main impetus for using a computer was to get back to developing these specialities, particularly through catalogues, an important aid to develop a wider customer base.

Actually receiving a catalogue in the post is more stimulating than the 'browsing' approach that dominates shops and (to an extent) even book fairs. My current aim is to issue a catalogue of specialist titles or a more general new titles list every two months.



BUSBY GOING CHEAP

Speech is free - unless you're doing it over the phone lines. But proper planning can dramatically reduce the cost of comms

Reams of it

If there is any problem with the techniques described here it has to be the speed with which the printouts tend to build up. For some reason collecting log files seems to bring out the Maggie in people. A stapler or those binders especially designed for continuous paper are a good idea.

If you enter a house you've never been in before, the temptation to look behind every door, not to mention in every cupboard, can be too much to resist. Once into a bulletin board you're positively encouraged to do exactly that, and it's hard to resist looking in just one more room.

All this wandering around peering into every nook and cranny takes time, and your phone bills will quickly tell you just how inquisitive you've been. So how can you keep the cost of curiosity down to a level that doesn't break the bank?

There are several strategies that you can adopt, but all of them require a little discipline to begin with. The first thing is to make good use of log files. These are simply files that capture everything that appears on the screen of the PCW. This feature is quite distinct from the ability to capture a downloaded file.

Just about all comms programs support this session log feature, if for no other reason than that it is convenient to have a record of a comms session. In the early days it was often the only way of finding out what had gone wrong. Nowadays the main use for it is quite different; it allows you to learn how to operate a bulletin board without being on it - which is cheaper.

you want to investigate and then quit).

If you normally use LocoScript for word processing, you now have to copy the saved file to disc before getting LocoScript going. Protext or WordStar users can simply start their word processor and read the Ascii file created by the comms package straight in.

Now you can tidy up the file, rearrange all the menus for ease of reference, give them a nice title and print them out. You'll probably have several pages of explanation and menus about that particular bulletin board which will tell you how to use it and where everything is. Now, whenever you wish to access that board, simply look it up in your file of printouts - instead of blundering around and trying to remember where everything is you can go straight to the location you want.

Speaking of which

Most of the time you will want to read the messages on any bulletin board you access. At 1200 baud the messages can scroll faster than you can read them, and anyway, why pay British Telecom for the privilege? Just start a log file, scroll through them as fast as possible, and log off. Now you can read them at leisure using nothing more than the TYPE command or edit them and save those you want to keep or reply to.

These two techniques alone can save you pounds every month, but there's even more you can do. For example, many comms packages allow you to find a file when in terminal mode (instead of typing the message in at the keyboard). This means that you can prepare messages, and replies to the messages of others, using a word processor while off-line. These files are obviously much easier to edit than those typed in while logged-on (a laborious process on most bulletin boards) as well as being far quicker to transmit.

Messages that might take you an hour of thought (with constant references to the message file you downloaded earlier) can be sent in a few seconds - clearly a big saving when compared with the cost of doing it all while on-line. Now you're really beginning to get value for money out of your modem.

TIME & MONEY

Charge Rate Period

Type of Call and Charge Letter

	Cheap Mon-Fri 8pm-8am Sat & Sun all day	Standard Mon-Fri 8am-9am and 1pm-6pm	Peak Mon-Fri 9am-1pm
Local (L)	360	90	60
National (a)	100	34.3	25.7
National (b1)	60	30	22.5

When you call can be as important as who you call. If you're going to be on line for a while call off peak. Similarly, given a choice, use the bulletin boards at the end of low-cost long-distance lines where possible.

Reference work

How you turn the log file on varies from program to program. For instance in Dialup you have to be already logged-on to a host in terminal mode first: press [F3], and then supply a filename to echo everything to.

Other programs (like UKM7) allow you to record everything from the moment you invoke the program. Generally it's a good idea to use the much faster M drive for this as you can lose incoming data during disc accesses to floppies. The PCW can't access the serial port while reading or writing to a file.

However your program works, the general procedure to adopt remains the same. Simply go through as many menus as you can find as rapidly as possible, set yourself a time limit of say five minutes and then log off. Now close your log file and quit the comms package (or do the same thing for any other bulletin board

```
SYNTAX: primaryoption[secondaryoption] (d:filename) [ afn]
PRIMARY OPTIONS:
S Send binary files, afn list
R Receive binary files, driver:
T Terminal mode, terminal filename optional
DEL Delete terminal file
DIR Directories list, afn optional
CWD Exit to CWD
LOG Log all drives
SET Set tx/rx baud rates (currently: TX = 1200, RX = 1200)
OPT Set tx/rx options (currently: PARITY:none, BITS:8, STOP BITS:1)
DRV Change default drive (currently: A:)
X Expert, toggle menus on/off
M Menu display

SECONDARY OPTIONS: ((for primary options S and R))
N Non batch mode, send or receive file
Q Quiet mode, remote system send/receive
S,R,V Monitor data sent, received or view file
A => terminal mode after file transfers
A => M:STRANGE.LOG

TX Terminal file M:STRANGE LOG toggle save on/off ':' = on
TX Transfer (Send) ASCII file without checks
TX Abort transfer initiated above
TX Computer mode, toggle echo on/off
TX Send following character literally
TX Exit to command menu
TX Display terminal menu
TX
```

In UKM7, it is possible to send all screen output to a file, beginning even before you dial anyone. All it needs is the T option (from the main menu) and a file name.

Add style to your PCW – with LocoFont

LocoFont gives you a range of typestyles to use on your PCW's built in matrix printer. With LocoFont you can match your typestyle to your mood – Roman for an important letter to the bank manager, Script or Penman for more personal correspondence...

There are 14 typestyles to choose from – 10 in Set 1 and 4 specialist fonts in Set 2.

Set 1 £19.95

Please find enclosed confirmation of your order for an additional 50 brass fittings with screw threads. But note...
abcde ABCDE aBcDe ABcDE aBrr
ABrr 12345 6789 1011 1213 14

Taking as our hypothesis
 $\sqrt{C, 0.2} \approx 0$
the argument gives the result
 $\sqrt{2.2} \approx 0$
abcde ABCDE aBcDe ABcDE aBrr
ABrr 12345 6789 1011 1213 14

You are invited to Ted's housewarming party. The new house is supposed to be finished on the 27th June, ...
abcde ABCDE aBcDe ABcDE aBrr
ABrr 12345 6789 1011 1213 14
We're glad to hear that you enjoyed the little "surprise" party that we organised for you on your birthday. I'm sorry that I...
abcde ABCDE aBcDe ABcDE aBrr
ABrr 12345 6789 1011 1213 14

Aveado Pear £2.95
Seaford Cocktail £2.50
Cucumber Soup £1.95
Fresh Mussels £4.50
abcde ABCDE aBcDe ABcDE aBrr
ABrr 12345 6789 1011 1213 14

Word Processor: Used to describe a computer together with special software or simply to describe the facility to create and modify documents on a screen before ...
abcde ABCDE aBcDe ABcDE aBrr
ABrr 12345 6789 1011 1213 14

John & Maureen Hough
Isley Antiques,
27 The Square, West Street,
Cirencester, Gloucestershire.
Phone 0542 76634
abcde ABCDE aBcDe ABcDE aBrr
ABrr 12345 6789 1011 1213 14

Set 2 £14.95

The software contained in this package is supplied to you on the terms and conditions indicated below. The opening of these terms and conditions, your acceptance of these terms and conditions, if such acceptance is not accepted ...
abcde ABCDE aBcDe ABcDE aBrr
ABrr 12345 6789 1011 1213 14

It seems ages since I last wrote to you – and even longer since we last met. Now that I've got more time why don't we meet up in London one day soon for a ...
abcde ABCDE aBcDe ABcDE aBrr
ABrr 12345 6789 1011 1213 14

Both sets together SAVE £5

Please send me the following:

FOR THE AMSTRAD PCW 8256/8512 Name _____

LocoFont Set 1* £19.95 ☐ Address _____

LocoFont Set 2* £14.95 ☐

LocoFont Set 1 & 2* £29.90 ☐

LocoScript 2 & LocoSpell £34.90 ☐

LocoScript 2 £24.95 ☐

☐ I enclose a cheque for TOTAL £ _____

☐ Please charge my Access/Visa card _____ EXP Date _____

Signed _____

Send to Katy Buchan at:



LOCOMOTIVE SOFTWARE

Allen Court, Dorking, Surrey, RH4 1YL

* For LocoScript 2

Note: All prices include VAT and UK postage

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LocoFont

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On the PCW8256/8512

FOR SALE: MINI 1000 – Good
LITTLE RUNNER, NEEDS A LITTLE
WORK. TAX AND MOT UNTIL AUGUST.
NEW SUBFRAME AND BRAKES. OFFERS
abcde ABCDE aBcDe ABcDE aBrr
ABrr 12345 6789 1011 1213 14

The minutes of the previous
meeting were accepted as
correct. There were five
matters arising which were ...
abcde ABCDE aBcDe ABcDE aBrr
ABrr 12345 6789 1011 1213 14

We have been forced to adopt
a tougher approach to returns
of faulty product. No returns
will be accepted without prior
abcde ABCDE aBcDe ABcDE aBrr
ABrr 12345 6789 1011 1213 14

The Residents Association
« Annual Fête »
The fête this year will be held
on the 10th June at 2.30 pm
abcde ABCDE aBcDe ABcDE aBrr
ABrr 12345 6789 1011 1213 14

After disconnecting the mains
power, unscrew the three screws
marked 'x' and remove the cover
slowly. Be very careful not to
abcde ABCDE aBcDe ABcDE aBrr
ABrr 12345 6789 1011 1213 14

The software contained in this package is
supplied to you on the terms and
conditions indicated below. The opening
of these terms and conditions, your
acceptance of these terms and conditions,
if such acceptance is not accepted ...
abcde ABCDE aBcDe ABcDE aBrr
ABrr 12345 6789 1011 1213 14

It seems ages since I last wrote to you –
and even longer since we last met. Now
that I've got more time why don't we meet
up in London one day soon for a ...
abcde ABCDE aBcDe ABcDE aBrr
ABrr 12345 6789 1011 1213 14

LOCOSCRIPT

Is LocoScript 2 really that much better than its ageing but

Amstrad have packaged LocoScript 2 with the PCW9512 right from the start. They did this because the 9512 machines were aimed at a more demanding customer – the business user. But if it's really that good, then shouldn't more 8000 series owners be making use of it?

LocoScript 1 is undoubtedly a fine program, easing new users into the power and complexities of word processing – and it comes free when you buy the 8256 or 8512. But should you stay with it simply because you started with it?

The menu system of LocoScript 1 guides you gently through from relatively straightforward actions such as underlining text to more complex concepts such as page layout. For the newcomer, this easy access to the power of the program is a boon. However, the more experienced you become the more you will find yourself using the shortcut keystrokes such as +B or -UL as you try for greater speed and efficiency.

The job of a word processor is to ease the labour involved in working with text. With the drudgery alleviated there seems to be more time in which to consider the words themselves. Whether you're a business person using your PCW to write letters to clients, a student writing essays to deadlines or a club secretary producing leaflets (just a few examples from among the 8000 Plus readership), the one linking factor is the need to get as much done in as short a time as possible. But LocoScript 1 soon hits the stops and you can find yourself working to its limitations rather than your own.

The Sins of the Fathers

While LocoScript 1 is a strong word processor, it was designed at a time when the potential of the 8000 series PCW had not been fully appreciated, let alone achieved. Locomotive appeared to assume that A4 single sheet or 11" continuous stationery were all that would be required by PCW users. The PCW was not credited with the ability to achieve many of the tasks, such as desktop publishing

or database work which, as has subsequently been shown, it is quite able to do.

LocoScript 1, for example, cannot be made to support any other printers. It was assumed that PCW owners would not want to attach a faster dot matrix printer, or a daisy wheel printer, to their machine. It was also assumed that PCW owners would not want to use other typesets.

Still, most of the restrictions imposed by LocoScript 1 can be overcome if you don't mind spending a few hours delving into the manual for details. But one limitation which can't be overcome is the speed at which LocoScript 1 carries out your orders; once beyond page two of your autobiography you might well be tempted to shorten your life – LocoScript 1 is mind-numbingly slow.

The problem is in the software; the PCW itself is capable of operating at far greater speeds than those which LocoScript 1 will allow. These, and other problems have been voiced since the PCW became the country's favourite word processor. PCW users have made their feelings heard on all of the above points.

The son also rises

Locomotive eventually dealt with all of these points and many more with the release of LocoScript 2 right back in May 1987. In fact when Amstrad brought out the PCW9512 it was apparent that LocoScript 1 would not go with the upmarket image of the machine – but LocoScript 2 would. Of course there was another important reason; 9512 owners were going to get a daisy wheel printer – but also they were to get a built-in printer port.

To make use of other printers they needed LocoScript 2's printer support. The first glance at LocoScript 2, or rather its examples disc, will show that it supports upwards of fifteen other printers. Not only this, but the choice of paper comes down to the users' discretion rather than the dictates of the software. None of this was to help buyers of the 8000 series PCWs who continued to get LocoScript 1 bundled with their machine.

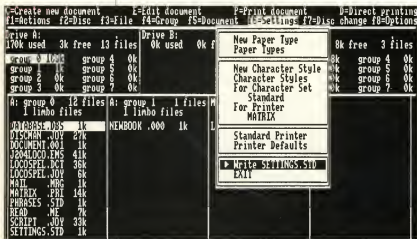
This new ability to change paper is a good example of the flexibility which LocoScript 2 provides. Previously, in LocoScript 1, your options from the Printer menu were confined to such joys as Draft or High Quality, single sheet or continuous stationery and header gaps – and that was that. With LocoScript 2 the vistas opened to give far more scope.

In fact you can even define your own paper type. By pressing the [F6] function key you bring up the Settings menu. This, in effect, allows you to look at the piece of paper you have in your hand and describe it to LocoScript. You state whether you want landscape, which will allow more characters to be printed across the sheet, or portrait, which allows more length. The ability to alter the gaps is also available.

These gaps are the areas at the top and bottom of the sheet upon which the printer will not print. After all this has been done, and you've ended up with a six inch wide, four inch high paper type which prints four words in the middle, you then get to name your creation and save it in a file called Settings.Std. This file is maintained automatically by LocoScript 2 and holds not just the paper type you're using but the printer details (which sort you're

One! Two! Char, Char, Char!

LocoChar comes with LocoScript 2. It allows you to redefine up to 16 characters which can then be shown on the screen or printed out. You can create scientific characters, or even runes if you are that way inclined. After some initial bafflement you may find yourself becoming addicted. Beware, it is all too easy to find your work littered with unwanted characters.



LocoScript 2 save, among other modifications, the advent of the [F6] settings menu.

T GROWS UP

ngbut revered forebear? Tim Smith gives you the word.

using) and which typestyle you normally use – your whole printing environment.

Read all about it

You can treat this file in the same way as you would Phrases.Std and create as many as you like, each one suited to a different activity. In fact LocoScript 2 is clever enough to tell you when the Paper Type in Settings.Std doesn't match the format of the document you're printing out and offers you the choice of continuing or stopping.

LocoScript 2 treats its page layouts in a far less rigid way than version 1. Where LocoScript 1 must find a Template to work to from somewhere, LocoScript 2 will let you create documents with no Template. Each document can be treated as a unique type unless you decide otherwise.

Phrases and blocks are also dealt with in a more logical manner. It is unlikely that anyone remembers a phrase as A or a block as 1. It is far easier to be able to see what the saved text actually says. LocoScript 2 allows this with its Show Phrase/Block options which give the first few words of a block or the whole phrase. You still paste by number or letter but now you can check that you have the right text first.

The function keys in the disc manager screen have been changed so that Groups, Files and Documents are together as opposed to Copy, Erase and Move – you are far less likely to erase a document by mistake. But both versions have the same look and feel so any worries about finding yourself in unfamiliar territory are quickly snuffed out. One of the best parts of the entire LocoScript 2 package is the manual. Written by Jean Gilmour, who was also responsible for the first manual (and has therefore had plenty of practice), it teaches by example. Unlike the book which accompanies the 8000 machines which has to cope with CP/M, Basic and Logo, this new tome is dedicated to LocoScript 2. There are 21 tutorials or 'sessions' which run through the range of functions available to the LocoScript 2 user in clear, concise fashion.

Add-On and Eve

LocoScript works under its own operating system which is why, without Flipper, you are unable to move between it and CP/M. In the case of LocoScript 1, this meant that if you needed to do anything other than word processing you were forced to switch off and begin again with the C/PM disc (including formatting discs). This tended to cause extreme irritation to those people who needed to get back to their databases, do a word count, or format a new disc.

Different people use LocoScript for different reasons; a technical writer - and this might be someone writing a local village history - might need to call up references from a database. A business will need to send mailshots, the list goes on.

As a simple example, many people require a dictionary, a dict... a spell checker. Although Locomotive once provided LocoSpell for LocoScript 1 this is no longer available from them, to enjoy the professional appearance of spell-checked documents you first have to upgrade to LocoScript 2. There are other benefits to be had.

LocoMail is the add-on which allows LocoScript to

perform repetitive commands and mailmerge from a database of names and addresses. LocoFile is a strong dedicated database system for which many people have begun to develop applications as diverse as thesauri and technical libraries.

Locomotive have extended the internal range of the characters in LocoScript 2, including the complete Greek character set as standard. But LocoScript 2 can go even further, foreign versions are available ranging from Arabic to Welsh and if that's still not good enough there's LocoChar which enables you to create your own characters - handy for Oriental linguists or creating logos.

Up! Up! and Away

In conclusion, while LocoScript 1 proved a dramatic improvement over the old Selectric it comes nowhere near to developing the full potential of either you or your PCW. If you've reached the point where the limitations of LocoScript 1 are beginning to chafe then LocoScript 2 would be good move. If you want to use the various add-on programs like LocoMail, LocoSpell, or LocoFile then upgrading to LocoScript 2 is absolutely essential. ■

Welcome to the Pleasuredom

LocoSpell is notorious for both the words it includes and those it misses out. Locomotive's original choice of dictionary tended toward the unusual though they are in the process of making it a little more accessible. It should be treated with caution until you have built up a few user dictionaries containing the words you actually use. These few lines from a famous poem by Coleridge might serve to illustrate the point:

In Xerox did Keel Keen

A state pleasure-dome degree

Where All, the sacred river ran

Through cameras measurement to man

No prizes for naming the poem...and we like to think that Coleridge might have appreciated the translation in his less lucid moments.

Speed Thrills

Actions tend to speak louder than words. Here are a few time trials taken with both LocoScripts working in the M: drive. All timings have been taken over a 9k block of straight text. Each page consists of roughly 3k. All timings are approximate but even so, the increase in speed is dramatic.

Movement:	LocoScript v.1	LocoScript v.2
Cursor through single page	7-8secs	4-5secs
Move 1 page using Doc/Page key:	7-8secs	3-4secs
Cursor through 9k doc	24-25secs	12secs
Move 9k using Doc/Page	23-24secs	8secs
Copy 9k block using cursor keys	105secs	77secs
Copy block using Doc/page	125secs	55secs
Paste Block (into document)	175secs	105secs
Block (in to blank page)	130 secs	90secs

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- 1) YOU PAY FOR DISPATCH AND COLLECTION.
- 2) WE REPAIR YOUR FAULTY PCW ITEM WITHIN OUR MIN-MAX CHARGE. (below)
- 3) WE SEND IT BACK TO YOU VIA OUR COURIER.

● SILVER SERVICE (Back in 6 Working Days)

- 1) YOU SEND US THE FAULTY PCW ITEM FOR REPAIR AT YOUR COST.
- 2) WE FIX IT WITHIN OUR MIN-MAX CHARGES. (see charges below)
- 3) WE SEND IT BACK TO YOU VIA OUR COURIER.

● GOLD SERVICE (Back in 4 Working Days)

- 1) WE ARRANGE COURIER COLLECTION AT OUR COST.
 - 2) WE REPAIR AND TEST THE FAULTY ITEM.
 - 3) WE SEND IT BACK TO YOU VIA COURIER.
 - 4) FOR GOLD SERVICE YOU PAY ONLY THE MAXIMUM CHARGE (see below)
- This service is open to Access/Mastercard Card holders only.

PCW REPAIR	Min Charge	Max Charge
Faulty PCW8256/512 Keyboard.....	£15.00	£85.00
Faulty PCW9512 Keyboard.....	£15.00	£95.00
Faulty PCW8256/512 Printer.....	£18.00	£30.00
Faulty PCW9512 Printer.....	£25.00	£115.00
Faulty PCW8256/512 Monitor.....	£30.00	£160.00
Faulty PCW9512 Monitor.....	£30.00	£160.00
Faulty! Don't Know what it is? (sending you the lot!)	£50.00	£185.00

Note: For Bronze and Silver Service, Please send payment for our minimum charge your Engineer will inform you of the exact repair cost before dispatch

THE D.I.Y. PCW SPARE PARTS DEPOT

We stock every PCW part!just some below:-

● COMPLETE AMSTRAD PCW PARTS:-

ORDER CODE	DESCRIPTION	EXCHANGE PRICE	PURCHASE PRICE
271000	PCW8256/512 Complete Working Keyboard.....	£15.00	£115.00
277000	PCW9512 Complete Working Keyboard.....	£15.00	£135.00
271200	PCW8256/512 Complete Working Printer.....	£135.00	£135.00
272200	PCW9512 Complete Working Printer.....	£135.00	£165.00
271300	PCW8256 Complete Working Monitor.....	£145.00	£145.00
271301	PCW9512 Complete Working Monitor.....	£245.00	£245.00
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710181	PCW9512 PCB, CPU.....	£75.95	£83.75
700771	PCW9512 PCB, CPU.....	£80.00	£97.95
111171	PCW8256/512 PCB, Monitor.....	£48.95	£74.25
600771	PCW9512 PCB, Monitor.....	£48.95	£74.25
911171	PCW8256/512 PCB, Keyboard.....	£21.95	£28.95
500771	PCW9512 PCB, Keyboard.....	£21.95	£28.95
311171	PCW8256/512 PCB, Printer.....	£15.95	£27.95
800771	PCW9512 PCB, Printer.....	£15.95	£27.95

● AMSTRAD PCW DISC DRIVES:-

ORDER CODE	DESCRIPTION	EXCHANGE PRICE ONLY
600091	PCW8256/512 "A" Disc Drive (Real Amstrad!)	£34.75
602171	PCW9512 "B" Disc Drive (Real Amstrad!)	£72.75
410771	PCW9512 "B" Disc Drive (Real Amstrad!)	£92.75

● AMSTRAD PCW PRINTER PARTS:-

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221771	PCW8256/512 Printer Mechanism.....	£79.95	£99.95
881171	PCW8256/512 Printer Head.....	£39.95	£36.25
881171	PCW8256/512 Motor Head Drive.....	£14.25	£14.25
321171	PCW8256/512 Paper Holder (Black).....	£2.25	£2.25
121171	PCW8256/512 Paper Tray (Grey).....	£3.75	£3.75
632171	PCW8256/512 Printer Head Lid (Black).....	£5.35	£5.35
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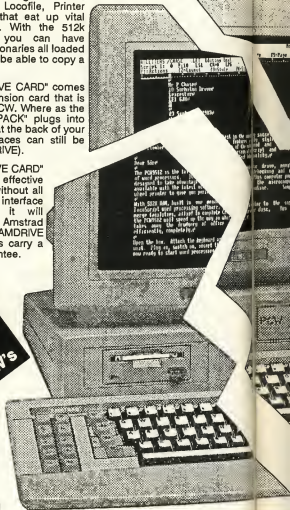
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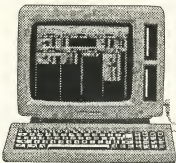
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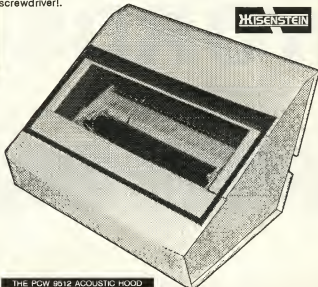
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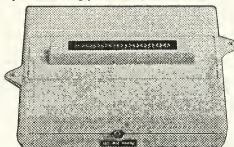


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GETTING YOUR WORDS-WORTH

Dave Axford shows you how to make your pages look more stylish with the help of some boxes, a few words and, last but not least, Stop Press.

Putting comments and text in boxes can make an article look more attractive and readable. The basic technique for creating text boxes isn't going to change from one box to another, so to illustrate the technique, we'll work through the creation of the contents box on the cover of 'Village Voice'.

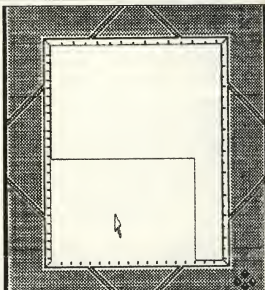
Chinese boxes

Before creating any box, the first thing we have to know is its exact size. It's unlikely that the size will alter from one issue to the next as the number of pages will remain constant. The text on the front cover of 'Village Voice' is set in two columns and as the box is at the bottom of the first column it needs to be one column wide. Having decided on the size, we create the box using the control panel of Stop Press.

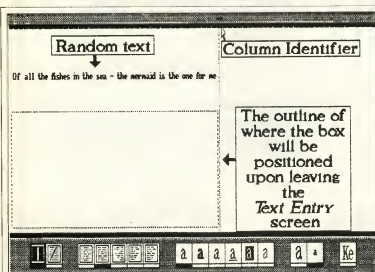
To bring the Control Panel onto the screen hold down MOVE and click EXECUTE; move the cursor (in this case the arrow) to [A - 1 & 2] and click EXECUTE again. Next look at [A 6] to make sure that you have your selected drive showing (this is the drive to which you'll save your data). If it isn't the correct drive letter, then place your cursor over the letter and click EXECUTE which will toggle A B or C. Follow this with CANCEL. What you have done is to select your default drive to which you're going to save your page.

Quickly click MOVE and a Page Access Window (PAW) will appear. This is a miniature version of your page. The square on the page indicates the canvas area that you are working on. Move the canvas to the bottom left of page by holding down MOVE and moving the cursor.

Click CANCEL and you have a blank canvas in the correct position. Now we need to type in some random text on the page so that we can get a reference for the width of the box. To do this, bring up the Control Panel again and click the left arrow icon at [E 5]. This will make the number 3 show as 2, the number of columns of text on your page.



The Page Access Window of Stop Press shows you not only what you have on the page but exactly where you're working on it. Since the screen of the PCW isn't large enough to show the whole page at once, this is a very useful facility.



Using some random text to set the size of the box for the contents page and actually creating the box and its shadow. The other boxes with pointers in the picture are just showing off.

cursor where you want the shadow to be and click. It's as simple as that to create your box. Now we can erase the unwanted text by calling up the Control Panel again and clicking [L 4]. Place the cross wire cursor over the top left of text and bringing it across to bottom right, click, and the text disappears.

Text-derity

Next click [E - F 1] which gives us the Text Editor screen. At the bottom of the screen there are some icons standing on little boxes, some of which are painted black to indicate that it is the default condition.

Click your cursor over the first icon box which turns the Column Indicators (CID's) on; next click the justified text icon (fourth), the normal lettering icon (eighth) followed by the small character icon (fifteenth). Make sure the kerning icon is off at the end.

Now move the cursor to the top left of the canvas, click, and type in a line of text (anything you like) until it word-wraps then click CANCEL. Call up the Control Panel and click [G 4]. Place the vertical cross wire cursor on the left hand side of the text and the horizontal one about halfway down the screen. Click, and move the cursor to the right hand side of the text and down to about a centimetre from the bottom of the screen and click again.

The box is now created but don't click CANCEL just yet because you can now move a copy of the box to form the shadow; move 6 pixels to the right and 3 pixels down with the cursor and click, now you can CANCEL. Call up the Control Panel and click icon [L 4], click the cross wire cursor inside the top left and again inside bottom right of the box to erase the unwanted lines.

Nearly there now; access the Control Panel and click [I 1]. Put the

Cursor words

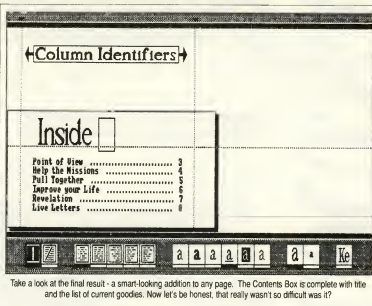
We now need to enter the Control Panel again and put the cursor over [F 5]. Click and the figure 2 will be replaced with a 3. Click [E - F 1] to get the Text Editor screen again.

Move the cursor over one of the CID arrows at the top of the screen, holding down MOVE to drag the CID to about a centimetre inside the left hand edge of the box. Do the same with the other CID only this time moving it to the opposite side of the box.

Now move the cursor (a small square) to where you want the body text to begin - about a third of the way down. Click the cursor and type in the text. When you have completed this task click CANCEL.

The next step is to write the title, underlined and in bigger letters. Click the big character icon at the bottom of the screen (fourteenth from left). This time we shall centralise the heading by selecting the third icon and then click the character with the line underneath (eleventh).

Move the cursor to the inside top of box where the title is to be and click. Type it in and click CANCEL to leave the Text Editor. Now that the contents box is finished you may find the text isn't quite centralised. No problem - it can be moved. Call up the Control Panel and click first [D 6] then [C 1]. Put the cross wire cursor over the top left of the text and bring them across to the bottom right of the text. Click and move the cursor (which is now the size of your portion of text) into the middle of your box. Click and it should be perfect! Save to disc by calling up the Control Panel and clicking [A 5 - 6]



Advance planning

A flatplan is a miniature representation of each page of your publication. It is vitally important that you create a flatplan no matter what the size of your newsheet or magazine as without one you will end up with a poorly structured publication.

When designing your flatplan, remember that facing pages need to be treated as pairs for design purposes to keep things balanced. Professional magazines have odd number pages on the right, but in our example you would treat pages two and three as a pair and so on.

It is advisable to design a flatplan template drawn, to scale using STOP PRESS and store it on disc - it will save a great deal of time in the preparation of future issues.

Enter the main title of your magazine in the position in which you will place it on the front cover. Draw boxes to scale for the titles and pictures; this will give you a true representation of where everything will be placed on the page.

After the title and any pictures are placed in their correct position, it is then possible to work out how much copy is required to fill it. A good deal of thought is needed when deciding where to put your regular items like news, letters, or even crosswords as they should stay there once you've decided on the flatplan. Readers like to know where to find regular features.

Next Month

In the final part of this series, Dave Axford discusses graphics in STOP PRESS: how to get them and how to create them - don't miss it.

LocoScript 2 & LocoSpell

Just using the LocoScript which came with your PCW8256/8512? Then you're missing out...

YOU COULD BE :

Counting the words in your documents

LocoSpell finishing	
Words checked:	95
Words to add to dictionary:	0
▶ OK	

Using a faster better printer

Printer	
MATRIX	
✓ LocoScript	
FX80	
D630	

Spending less time editing

▶ Find page	????
End page here	
Last line of page	
Keep current line with:	
?? lines above	
?? lines below	

Checking your spelling and typing automatically

Stopped at:	misstake
Replacement:	mistake
▶ Use suggested replacement	
Replace and then edit	
Edit this word	
Consult dictionary	
Ignore this word	
Mark this word correct	
Add to user dictionary	

Having a choice of print styles

Character Set	
✓ Standard	
Sans serif	
For printer	
MATRIX	

LocoScript 2 is the improved word processor for your PCW – it's faster, easier to use and gives a better printout. LocoSpell for LocoScript 2 checks and corrects spelling: use it to spot your typing mistakes and count your words. LocoScript 2 works with all your existing documents, so there's no need to re-type anything! ...

We could go on, but there's a 16 page detailed leaflet explaining the benefits of the whole LocoScript 2 family. If you're not already convinced write to Katy Buchan at Locomotive Software and ask for a copy. LocoScript 2 costs £24.95. LocoSpell costs £19.95 – **BUT BUY THEM TOGETHER AND SAVE £10.**

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Please send me details of the LocoScript 2 family ☐

Name _____
 Address _____
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 Signed _____
 Send to Katy Buchan at:

☐ I enclose a cheque for TOTAL £ _____
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Note: All prices include VAT and UK postage

FROM LOCOMOTIVE SOFTWARE – THE CREATORS OF LOCOSCRIPT ON YOUR PCW

SECOND SERVICE

The built-in commands of CP/M sometimes just aren't enough, so they can be fitted with extensions – like drain cleaners.

If you aim to become a PCW power user then you will find that the built-in commands just don't give you the information you need. For you Digital Research have included COM files with the same names which sit there on disc waiting to add a little something to these oft used commands; just waiting to increase your control of the machine.

These programs are just a few of the utilities that can make using the PCW easier, make it more flexible, or allow you to do things with the PCW that you might not have known could be done.

The commands DIR, ERA, REN and TYPE are all used fairly frequently, apart from DIR, which can sometimes appear to be in use every few minutes. Useful as they are, there must have been times when you wished they would do just a little bit more. Well, here's how to make them do just that.

To use these utilities they have to be on the default disc drive. Either that, or you must set up a drive search path with SETDEF, a process we described last month and on which we will elaborate this month.

We'll start straight away with perhaps the most useful – the DIR extensions. The normal DIR display simply shows the files in the order they appear in the disc directory. You're given no indication of the size of those files. And even if you use the wildcards to specify the kind of file you want to see it can be hard to find what you're looking for. For example, you may want to find files you've marked Read Only.

As soon as you give DIR one of the options (inside the square brackets) that the built-in command can't handle, the COM file is automatically invoked; if it can't be found, you get a message **DIR.COM REQUIRED** to let you know that CP/M can't find it.

Assuming it is found, the requisite action is carried out. The first thing you'll notice is the extra information on the screen, but the best thing is that the directory is now sorted alphabetically, a great improvement.

Information retrieval

Some of the information on the screen after a DIR may not appear immediately sensible, so we'll just go through it. Let's assume you've used the **[FULL]** option so that everything to do

Listings plus

The following options can all be added to the DIR command provided that DIR.COM is available on the default drive or on a path defined using SETDEF. Only the first square bracket and two letters are required on the command line and they needn't be in capitals. As you can see, there is more to know about files on disc than might at first appear.

[ATT] shows current file attributes
[DATE] shows date and time stamps
[DIR] shows only files with DIR attribute
[DRIVE=ALL] shows files on all logged drives
[DRIVE=(A,B)] shows files on specified drives
[DRIVE=A] shows files on specified drive
[EXCLUDE] shows files that don't match those specified
[FF] if [Alt]p is pressed for printer output, this option sends a form feed
[FULL] shows everything that can be shown
[RO] shows files with Read Only attribute
[RW] shows files set to Read Write
[SIZE] shows sizes of files in Kilobytes
[SYS] shows system files
[USER=ALL] shows files in all user groups

WRITER BLOCK

In a simpler age (some say the Golden Age of computing) there were only two kinds of files, Binary files (full of machine code) and text files (which might have been either source code or documentation). In those halcyon days all good text files were ASCII files and all could be read with TYPE.

Extensions to the TYPE utility were legion. They included programs that allowed files to be TYPEd backward as well as forward, and the TYPE.COM program, whose main use is to allow bulk TYPEing of files using wildcards. It's sad to say that few word processors produce such nice clean text these days. LocoScript files can't be TYPEd at all and even Protekt files will all type to the same line – very irritating.

This facility is now only of real use to programmers, who have to produce decent ASCII files for their assemblers and compilers (Pyradev victims excluded). For those who need to know, the TYPE extension is called into action simply by specifying a wildcard in the filetype:

TYPE A:*.ASM, for example, TYPEs all ASM files on A to the screen.

Sorting Directories...

Directory For Drive A: User 0

Name	Bytes	Recs	Attributes	Prot	Update	Access
ADDFILE	PS	45K	365 Dir RM	None		
DIR	COM	15K	114 Dir RM	None		
ERASE	COM	4K	29 Dir RM	Read		
CRAPP	BAK	2K	1 Dir RM	None	12/15/82 01:22	12/15/82 00:16
CRAPP	DOC	2K	1 Dir RM	None	12/15/82 01:22	12/15/82 01:53
MEMGRAB	COM	2K	1 Dir RM	Read	12/15/82 01:22	12/15/82 00:16
NS	COM	15K	92 Dir RM	Read	12/15/82 01:22	12/15/82 01:15
OPENNM	PS	46K	365 Dir RM	None		
OPENNMU	BAK	46K	365 Dir RM	None		
OPENNMU	PS	46K	365 Dir RM	None	12/15/82 01:18	12/15/82 01:18
PACMAN	PS	46K	365 Dir RM	None		
RACE1	COM	4K	32 Dir RM	Read	12/15/82 00:41	
SETDEF	COM	4K	32 Dir RM	Read		12/15/82 00:16
SLIDE	PS	46K	365 Dir RM	None		
STAR1	PS	46K	365 Dir RM	None		
STAR2	PS	46K	365 Dir RM	None		
STAR2	PS	46K	365 Dir RM	None		
TYPE	COM	24K	184 Dir RM	None		12/15/82 01:24
TYPE	COM	24K	184 Dir RM	Read		

Total Bytes = 494K Total Records = 3772 Files Found = 19
Total 1K Blocks = 478 Used/Max Dir Entries For Drive A: 74/ 256

DIR [FULL] is the all-purpose version, providing more information than a British Rail timetable.

with the files has been shown. There will be a row of underlined headings across the screen, the first of which is **Name**. This, as you might suspect, is the name of the file.

The second heading is **Bytes** which gives you the size of the file in Kilobytes. It refers only to the minimum block size the disc can hold, so while **A** discs show any number of kilobytes – since **A** discs can have files in multiples of 1k, **B** discs always show even numbers of kilobytes – since they have a minimum size of 2k.

The next entry is **Records** and you may not have come across it before. It gives you your file size in 128 byte logical records, and is thus a far more accurate measure of their true size. This can be useful when trying to find which version of a file is the latest (the one you've added something to, or cut down).

Attributes are those things that decide whether or not your file is Read Only, Read/Write, System or whatever. DIR can't alter this state of affairs but it can tell you about it.

The list goes on to tell you whether or not the file is protected and finally, if you are in the habit of datestamping your files, when they were created and when you last updated them (this, too, can be altered as you'll see when we get to SET). And for anyone working with large quantities of files that change a lot, like letters, the ability to see the dates on them is extraordinarily useful.

I name that file

The extended version of RENAME allows files to be renamed in batches, that is to say, more than one at a time. There are no options allowed, you simply type in a pattern for the files you want changed and another for how you want them to look afterward. Let's say you write a lot of letters, those sent

out this month

all have a filetype LET but all previous correspondence has a filetype OLD so that DIR *LET lists only current correspondence. At the end of the month the command: RENAME

.OLD:.LET

will change all the letters in one fell swoop. As a bonus, if the name the file will be changed to already exists you're prompted by CPM; it asks if you wish to delete the existing file.

If you enter the command RENAME on its own then like TYPE you enter an interactive mode where the utility will prompt you for the filenames; if in any doubt about which way around the names should go (and we all get confused occasionally) this is the way to do it.

The final command we're going to look at this month is ERASE, the command that breaks hearts. At one time or another everyone has typed ERA *.* and confirmed it automatically – having completely forgotten which drive they're logged on to. It can really ruin your whole weekend. Even if you intend to clear the disc – and erasing everything is a much faster way of clearing a disc than reformatting, there's just might be one or two files you'd like to keep. The answer, of course, is to type:

ERASE *.* [CONFIRM]

which will call up the transient version of the ERASE command and prompt you for each and every file. This allows you that vital moment of reflection before casting it into oblivion.

Easycopy

The TYPE extension provides a quick and easy way to get a printout of a TYPEable file. Press (Alt) and then give the command TYPE FILENAME.DOC[NO PAGE] You will get the whole document with none of those Press RETURN to Continue messages appearing on the printout.

Rename won't alter protected files

```

>rename a:*.new = *.ps
OPENMENU NEW-OPENMENU .PS
SLIDE NEW-SLIDE .PS
RACER NEW-RACER .PS
PACMAN NEW-PACMAN .PS
ERROR: Not renamed. OPENMENU .PS read only.
STAR2 NEW-STAR2 .PS
STAR1 NEW-STAR1 .PS
ADD FILE NEW-ADD FILE .PS
    
```

SETDEF EAR

This is the utility which can make most difference to the way your system looks and feels. SETDEF tells the PCW how it should work under CPM. For example, many programs produce temporary files, not only word processors but a lot of programming utilities, business packages and so on. These would normally be kept on the default drive (the one defined at the prompt).

SETDEF can tell the system to keep temporary files on drive M, thus speeding up processing and avoiding the risk of filling up a nearly full disc with files you don't know about or want (some programs will fail if they can't write their temporary files – WordStar for instance). The command is: SETDEF [TEMPORARY=M:]

An irritation, albeit minor, is being told by your system that a file doesn't exist – the famous FILENAME? response – when you've merely forgotten to tell it which drive the file is on. SETDEF can force the PCW to look on all the logged-in drives before giving up, a much better idea. To do this type:

SETDEF M:,A:,B: but include the B only if you have a B drive.

A final treat is being able to run SUB files as if they were COM files. Instead of having to type SUBMIT GOFILE you can simply give the command GOFILE on its own and have the whole thing go merrily ahead. We can do that with SETDEF:

SETDEF [ORDER=(COM,SUB)]

SETDEF affords one more piece of information. It will confirm the name of the file you've asked for. This isn't really very useful but it can be nice to know that it really is doing the right thing. To do this use:

SETDEF [DISPLAY]

All of these options can be combined in a single line if you like and you'll find most of them in the supplied sample file, PROFILE.ENG. Run as the first command of the day and you will find the PCW more cooperative from then on. The line should be:

SETDEF M:,A:,B: [ORDER = (SUB,COM) TEMPORARY = M: DISPLAY]

```

M:erase
M:ERASE COM
Enter filename: a:grapl,bak
A: ERAPL .BAM (Y/N)? y

M:erase a:*.w[confirm]
M:ERASE COM (Y/N)? y
A: DIR COM (Y/N)? y
A: ERASE COM (Y/N)? y
A: NENGRAB COM (Y/N)? y
A: NS COM (Y/N)? y
A: SETDEF COM (Y/N)? y
A: TYPE COM (Y/N)? y
A: OPENMENU NEW COM (Y/N)? y
A: SLIDE NEW COM (Y/N)? y
A: RACER NEW COM (Y/N)? y
A: PACMAN NEW COM (Y/N)? y
A: OPENW AS COM (Y/N)? y
Not erased. Read Only
A: STAR2 NEW COM (Y/N)? y
A: STAR1 NEW COM (Y/N)? y
A: STAR2 SCR COM (Y/N)? y
A: ADD FILE NEW COM (Y/N)? y
A: OPENMENU BAC COM (Y/N)? y
A: SETDEF SCR COM (Y/N)? y
A: STAR1 .DOC COM (Y/N)? y
    
```

Confirming the selection of each file takes the anxiety out of clearing discs.

```

>setdef m:,a:,b:[order=(sub,com) temporary=m: display=on]
    
```

```

Drive Search Path:
1st Drive - M:
2nd Drive - A:
3rd Drive - B:

Search Order - SUB, COM
Temporary Drive - M:
Program Name Display - On
    
```

When SETDEF is invoked, it takes the trouble to tell you the state of play

NEXT MONTH

Get set, go

We've mentioned SUBMIT, a utility often greatly under-used. It can automate a surprisingly large number of activities and effectively give you complete new commands.

The SET utility provides protection, disc names, datestamping and other goodies to make working with disc-based files more efficient. Read all about these two powerful utilities right here – next month.

The best PCW software from Arnor

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- * Exec files * Two file editing * Keyboard macros * File conversion *
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- * Program editing mode * Proportional printing, right justified *
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- * Many improvements based on customer feedback *

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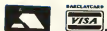
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OUT OF

Have PCW, will travel? Sharon Bradley sets sail

Terry Reynolds is the proprietor of one of the biggest commercial travel fleets of its kind in the world. Despite all indications to the contrary, however, it's not a travel company like other travel companies. Chalfont Line, based in Perivale, Middlesex, arranges national and international holidays for the disabled. Despite their success, though, the company has only been computerised for eighteen months; we paid them a visit to find out just how the PCW is shaping up in its role as an unobtrusive yet indispensable business partner.

Golden Retriever

Sage Retrieve costs £70 and is available from Sagesoft on 091 2131555. Because it installs on stretching itself on to the B drive, it won't be of much use to 8256 users, but it is a very versatile, high-powered package with sophisticated Sort and Select commands. SuperCalc 2 is available from Amsoft/Sorcom (091 5108787) for £49.95. See page 43 for further details.

Chalfont Line first began operating a specialised transport service in 1971. Under the auspices of the local authorities, Terry headed a fleet of 25 minibuses operating a shuttle service for the wheelchair-bound and infirm. 'There was a special school in the borough at that time, and I remember noticing - not without some surprise - that none of the transport available had had the foresight to make any provision for handicapped travellers,' recalls Terry. 'Nobody seemed to have heard of ramps let alone improvise them. Having spotted the need for what I had in mind, it was just a question of getting hold of a few more buses.'

In 1979, with the help and encouragement of William Hargreaves (the then head of the Spastics Holiday Programme) Chalfont Line proper, the escort holiday company for the disabled, was born. Hargreaves was duly designated Chalfont's Holiday Consultant where he has

remained till now, the company going from strength to strength. With Terry at its helm, the Line owns and operates their own coaches on all European holidays. The drivers and crew of Chalfont's Liberator coach fleet are all trained and employed by the company, unlike most tour operators who tend to contract-hire their services. Although the Perivale office is Chalfont's only office in the UK, the company does have agents who represent them abroad.

Strong Persuader

A garage at Hareford takes care of all our vehicle maintenance,' says Terry. 'What with that, and the business itself, my mother, who was doing all the bookwork manually (well, she might have had a calculator), was having quite a time of it. The sheer volume of paperwork that she had to get through was indescribable.'

Terry, like many others, fell an easy victim to the seduction of the PCW publicity campaign, which in the late summer of '85 launched the 6256 onto an unsuspecting nation; and, again like many others, he found its price a salient attraction. Says Terry, 'I didn't know the first thing about computers, but decided to adopt the same approach I'd used with my video recorder. That basically consisted of flicking through the manual until it clicked. I suppose I do tend to pick things like that up quite quickly - I didn't find the machine too difficult to get to grips with.'

Initially, the company secretary made use of the machine for word processing using LocoScript 1. The next step was to try and wage war on their straggling mailing lists using Sagesoft's Retrieve database. Not only were they able to keep the details of those lists on disc, but the program also allowed them to print out - without any hassle - name and address labels.

Let me count the ways

Sage Accounts, a sister program, proved disappointing when it came to computerising the company's book-keeping system. 'It was just too slow for what we wanted to do,'



Terry, together with accountant Ken Ritchie, feeding payroll details into Sage Retrieve.

Free the Spirit

Chalfont Line's Liberator coaches look just like any other on the road. They are however specially-equipped with, among other features, a side-loading lift, air suspension, a special low and a video system. All of the coaches used by Chalfont throughout the world conform to the same design.

BOUNDS

etsail to visit a tour company with a difference.

says Terry. 'We need to access accounts and retrieve data quickly. That means feeding in an invoice number and getting the relevant information up on the screen relatively quickly. Being already so pleased with Retrieve, we decided to stick with it and see if it could help us with this requirement too. It worked remarkably well.'

The upshot of all this is that Sagesoft's Retrieve alone keeps track of aspects of the company's business as varied as petty cash, payments (standing orders and so on), receipt of payments and the sales ledger.

The arrival of the PCWs (we spotted at least three of them) has also saved Terry money by virtue of the fact that he doesn't need to employ as many people as he did before. 'The software takes care of all our specialist needs itself,' he says. 'All we have to do is feed in the data. We are also saving a significant amount of money on our Insurance Premium. Businesses have to take out a special insurance on their books in case of fire or theft; dispensing with the books means we don't have to worry about that any more. It's a small consideration, but still quite an important one.'

Chalfont monitors the progress of their accounts using SuperCalc 2. As Terry points out, it's excellent for cash flows and cash flow forecasts; working out holiday costings is also a refreshingly painless operation now, simply because SuperCalc's famous 'what if?' hypotheses are so well-suited to arriving at sensible conclusions in the face of constantly fluctuating exchange rates. Gone, it would seem, are the days of buckled pen nibs and sweat-soaked note-pads.

Copy it - don't lose it!

Not surprisingly, Chalfont has learnt to make security backups of all their discs every day. Not only does this protect their data from any gremlins that might be lurking in the works (and let's face it, we've all experienced those at some time or another), but it also means that in the case of

a break-in (the company's suffered five of those already), nobody is going to be able to run off with months' of irreplaceable grafting. Chalfont also make a point of using passwords that are changed on a regular basis for that very reason.

Terry is certainly very pleased with the contribution that the trio of PCWs has made to his business. 'We've been using them for a year and a half now,' he says, 'and in that

Fresh Fields

The main thing to remember when faced with a new piece of software,' says Terry, 'is to ask yourself exactly what you want to get out of it? Make sure you drive it rather than the other way round. Early encounters with Sage Retrieve, for example, resulted in datalines with fields that were totally irrelevant or datalines with crucial fields left out.'

In Good Company

Chalfont holidays are group holidays that are inclusive of all necessary help. This means that experienced care-staff are supplied to look after the disabled clientele whatever the severity of their disability. Having said that, the company won't turn away the able-bodied half of a couple who want to go on holiday together. Chalfont own and operate their own specially-equipped coaches and will only stay at hotels and resorts that they have selected as being particularly welcoming and accommodating.

During the course of booking a holiday, however, an application form must be filled in by each prospective holidaymaker in which the details of the extent of the incapacity are recorded so that optimum care can be provided. That includes finding out things like the type and frequency of medication required and the degree of general independency that can be assumed before departure.

Precisely because the company keeps such a wealth of confidential information on all of its clients, they have to be registered under the Data Protection Act.

The longest holiday Chalfont organises is a three-week tour of New Zealand, although two to three SRNs or SENs always accompany each trip.

All the staff are hand-picked and then trained by the company. The coach drivers usually start off on small transport and then graduate - with training - on to the larger Liberator coaches. They're taught to drive in that special way needed when you've got wheelchair bound passengers on board. Although they're licensed by the Department of Transport as Public Service Vehicle drivers, they only deal with transport for disabled people throughout the year. 'It's caring, vocational work,' says Terry, 'but never patronising.'

Terry says the company succeeds primarily because of the attitude of the staff who work there: 'We consider ourselves fortunate to be able to earn a living by being part of the enabling process,' he says. 'Strange though it may sound, we don't want to become a massive corporation. The minute we lose the personal touch, it just won't work anymore.'



Terry and Dennis (left), who organise all of Chalfont's transport, hard at work in their Pervale office. Our next initiative, says Terry, 'is to organise an incoming holiday programme for visitors to the UK, a two-week tour of England plus a week spent in London.'

time I'd say that they've saved us something in the region of £12 - £14,000.'

They've also made the company more aware of the image they project to their customers and the various financial organisations with whom they regularly have to do business. Even more so with the arrival of the superior quality of daisy-wheel printout and LocoSpell.

Terry is perhaps typical of many PCW-users in that he regards his machines as tools that enable him to do his job more efficiently - nothing more. Getting the most out of the software that he feeds into its drives is therefore his primary concern: 'It's the tail not the dog that matters to me,' he laughs. A box of wires it may be, but Terry would probably be the first to appreciate its worth as a tool in the capable hands of a man who must, at the drop of a hat, be able to climb into the shoes of a businessman, nurse, coach captain or diplomat - sometimes all at the same time. ■

Wheels of Fortune

It was 1991, the International Year of the Disabled, that proved to be the watershed as far as recognising the needs of the disabled was concerned. As a result of that, Terry now does business with holidaymakers who generally want to be accommodating - even if it's only in providing wheelchair ramps,' he says. 'In the States, they had to be dragged, kicking and screaming, to the point we've now reached over here.'

BUSMAN'S

Mike Gerrard shows how those two wonderful wee

Any area of writing is hard to break into, requiring a mix of talent, luck and dogged determination. Travel writing is harder than most, mainly because there's such intense competition. The average travel writer, for instance, is unlikely to be able to produce an article that's suitable for the specialised pages of 8000 Plus, yet any competent 8000 Plus writer should be able to produce a readable travel article. So how do you break into the tough world of free holidays?

Just as software companies send out review copies of their products, travel companies offer free trips to the editors of travel sections. If the travel editor thinks it's something of interest to his readers then he may take up the offer. He might go himself, or he can easily turn to any of the many staff writers, some of whom may have a particular knowledge of the place being visited. A free trip in exchange for a few hundred words? Well, would you turn it down? Travel editors, incidentally, are just as likely to be female as male, but I refer to them as 'he' for convenience.

So what about you, the freelance? Well, there's also a lot of competition here, not only from full-time travel specialists but also full-time and part-time writers in other fields, and also people who may only write one article a year, or even one in their entire life – and there's a fair chance it'll be about their once-in-a-lifetime trip to some exotic location.

Despite the competition, the opportunities are there, if you go about it in the right way. The number one rule, as with any kind of writing, is to study the markets you're aiming at, although I won't waste too much space elaborating on what should be second nature to anyone who regards themselves as a writer. Don't send 2000-word articles to someone who only publishes 800-word pieces. Don't send speculative submissions to magazines who don't run travel articles in the first place: they're unlikely to change their policy just for you. Don't send the same type of piece to both The Sunday Sport and The Sunday Telegraph.

Speculate to accumulate

The best outlets for travel journalism at the moment are the up-market newspapers with their expanded weekend supplements, places like The Guardian, The Independent, The Daily Telegraph, The Times, The

Sunday Times. These all run several pages of travel each week and consequently devour material. Any article you produce hasn't been rejected till it's at least been seen by the travel editors of all of these.

The only way to make that first break is, unfortunately, to submit material speculatively. This is how I started, by writing articles about my own summer holidays and getting a few of them accepted. It needn't be anything exotic, and in my own case I was writing about Greece, which, although I didn't realise it at the time, is one of the most written-about destinations in an already overcrowded field. If you are visiting somewhere unusual, where not many tourists go, it does increase your chances of success – but only if you can write about it well. If you're writing about somewhere as popular as Paris then I wish you luck; you're gonna need it.

If you are planning to write about a trip, whether it's a fortnight in the Himalayas or a weekend in Bognor, do take

One thing which puts me off very much is if an article isn't presented well. You wouldn't believe it in these days of Amstrads everywhere, but people do still send in handwritten manuscripts that are extremely hard to read. The result is that you don't read them. People also send in stuff typed on both sides of the paper, and just don't know the fundamentals of how to present their work properly. This applies to all writing, not just travel, and good presentation shouldn't need emphasising – but it does.

Something else that applies generally, and which I notice particularly as a travel editor, is that most people overwrite, that's one of the commonest mistakes. They put in too much information, everything they can possibly think of to say about a place, and the article just gets lost in this wedge of information. They produce a piece which is what they think a travel article ought to be, but if you read enough travel articles you see that they are not like that at all, they are very much personal accounts. A lot of the skill in travel writing – indeed in any writing – is in paring it down to essentials without losing the flavour of the piece. You must edit down – constantly.

One of the things which people forget is that you have to change your style according to who you're writing for. I wouldn't write the same article for, say, The Sunday Mirror as for The Daily Telegraph, and yet this is what people do. What irritates me is when people don't think who they're writing for. It's obvious they have never read the Telegraph's travel pages and have no idea of the type of article we use. Our travel section is very much about tourism, about people doing enjoyable things on their holidays and their weekends off, and like the articles to reflect that, to be about people as much as about places, and what I very much don't want to see is the mundane 'First



S HOLIDAY

ful weeks in Ulan Bator might pay for themselves

a notebook with you and keep a diary, jotting down information such as the names of churches and villages, odd occurrences, amusing overheard remarks, and noting any conversations you have. Little details like these do make an article that bit different from the mundane rewritten-guidebook approach. Besides, writing up your daily notes is a good excuse for an early-evening drink and a chance to compare the local bars.

Batteries not included

I bought a Z88 portable computer to take with me on trips, but don't rely on technology. Be sure to have plenty of pens and paper to hand as well. The first time I took my computer out to use it, having stuffed my luggage with spare batteries and even a continental mains adaptor, the wretched thing wouldn't work. It's since been replaced, but on a tiny Greek island or half-way up a mountain, you can't guarantee there'll be a handy branch of Dixon's.

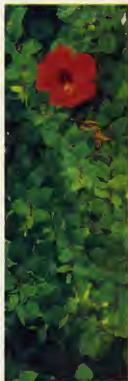
Likewise for camera film. Take as much as you can carry, both black and white and colour slide film. You may prefer colour prints for the family album, but magazines need slides and you have to decide whether you want to take photos to please yourself or to try to please the travel editor. You don't have to submit photos with an article, but if you can then it makes life easier for the editor and can also earn you a little more cash on the side: and justly you charge your photography expenses against your income.

With a little luck you may be able to sell one or two articles, and then you're in a stronger position to think about getting a commission. I've always found travel editors very approachable, and once you have some travel cuttings, you should write with photocopies and find out which will and which won't commission you to do something on the strength of an idea.

Fair do's

Getting a commission involves a commitment on the part of the travel editor, and some enterprise on your own behalf. If you've shown, for instance, that you know a particular country or area well, then suggest an article covering a place that's seldom visited, or that has an unusual fair or feast once a year, or suggest retracing someone's footsteps, or basing the prospective article round some specific theme, like visiting a city's theatres, or its music festival or whatever. An original angle is far more likely to appeal than a letter saying "Would you commission me to write an article about a weekend in Amsterdam?"

When submitting ideas, you must be prepared for the editor to turn round and say "Fine, 900 words please by the end of next month." Here's where your professionalism will be tested: are you ready to rearrange all your plans and fly off somewhere in the next few weeks? Travel writing isn't done just for the benefit of getting you two free weeks in the sun, so when a suggestion turns into a



Right of reply



Bernice Davison is the travel editor of *The Daily Telegraph*, one of several national newspapers with large travel sections, and someone who just happens to have an Amstrad PCW tucked away at home. These are her thoughts on the freelance submissions she receives.

we did this, then we did that' type of article.

Whether I accept a piece depends simply on how good it is, what they're writing about and how they're writing about it. For instance, there is no point in someone sitting down and producing a piece saying what a lovely time they had on their gîte in France or in their apartment in Spain; there are far too many articles produced like that every year. That's not to say that you can't write an account of a holiday like that and make it work, but the chances are against it. The account has to be slightly different.

In a way it doesn't matter where the place is: I've had some very boring accounts of people who have done the most exciting things, and yet you can get a really interesting article out of the most ordinary place. It's all down to the skill of the writer.

There is sometimes luck involved too. A piece may arrive on my desk just at the time when I'm looking for something about that particular country or city. It does happen, as does rejecting a piece you might otherwise use if you hadn't just bought a similar one. It doesn't matter about photographs, you don't need to send those in as well, as there are very few people who can both write well and take photos that are good enough for publication. It's useful if the writer can do both, but not essential.

What I don't like to see are letters from people asking me if I'd like to see an article about such-and-such. I can only write back and say "I don't know." I have to see the finished article to judge. You discover quite quickly if they're serious, some you never hear from again, but others will go away and write the article and send it in – and it does sometimes work, I'll buy it. But I have to see the finished piece first if it's someone whose work I don't know.

The number of unsolicited articles I receive varies enormously according to the season. There is a definite bulge in about September-October-November when people come back off their summer holidays and decide they're going to write about it. Then we get dozens of articles every week, very few of which I can use.

I find that I'm increasingly commissioning rather than using unsolicited material, which means that the chances for those articles are decreasing, but there is no other way to get started except to get down to it and write the articles and send them in. People do send me pieces out of the blue with something about them that makes me feel 'Yes, I'd like to use this sometime, it's nicely written, it's very much our market.'

commission it's no good saying "Well I'd like to but I've got my mother coming to stay next weekend, and my passport needs renewing...."

Assuming you take up the commission, the next stage is to contact the travel company and tell them you've been commissioned to do a piece by, say, The Guardian, and would they be able to take you? Often there's no problem, they'll be happy to accommodate you in return for the publicity that they'll receive. Some may say "No" for one reason or another, some may be full, some may offer you a discounted deal – there are no rules. Some may insist you pay for the trip as a normal customer, in which case the newspaper may agree to pay on your behalf, or pay for the trip in exchange for the article. It's worth mentioning that The Independent has its own special arrangements. In order to maintain its independence it will not accept free trips of any kind, so either you or the newspaper would have to pay for the holiday.

Red letter day

Travel writing is not quite the lucrative enviable jamboree that it might appear to outsiders. For a start, the sun doesn't always shine, you can't pick and choose your flight time or spend hours deciding where you'll be staying. You get what you're given.



Mike Connolly, freelance journalist, smiling isn't just because of the sun and sand but because he's earning an honest crust. Be warned though: "The sun doesn't always shine on the travel writer", says Mike.



Travel articles also tend to be fairly short, and some publications pay fairly low rates unless you happen to have a famous name or an established reputation. To begin with you're likely to be paid in the region of £100/£200 for a typical article, though a newspaper like The Sunday Times pays higher rates and runs longer articles. It's easy to see, though, that if you're on a two-week trip and only getting paid £150 for the article, that will just about cover your expenses on the holiday, plus the cost of getting to the airport and back, but it'll hardly cover the mortgage as well.

To talk like this to non-writers usually brings on comments about gift horses and mouths, but as a professional writer with a living to make you can only make so many trips a year, even free ones, and still come out on top. Basking in the sun is all very well, but it doesn't pay the bills unless you can also work on something else while you're away – or perhaps move on to writing travel books as well. It's one of the unexpected aspects of travel journalism: the more you do then the browner your skin but the redder your bank balance! Mind you, there's also a lot to be said for being able to claim the cost of your summer holidays against the tax-man!

Just what the editor ordered

If you went into a shop to buy a yard of knicker elastic and came away with two feet or four feet, you'd probably take your custom elsewhere. The same principal applies to journalism, and there may well be other parallels with knicker elastic, but providing the right length of material is vital.

Travel pages tend to be produced to a fairly strict format. If you are lucky enough to get a commission, the travel editor will tell you the length of piece wanted: say 800 words. If you have a good relationship with the editor and feel you cannot write it in less than 1000 words then do say so, to see if you can have a little more room, but only if you have a very good case as to why he should give you more space than anyone else.

If asked for 800 words, then deliver 800/850. Allow up to a maximum of about 10% over, but no more. When laying out the pages, the editor will not want too short a piece. 750 words may leave him with white space to fill, and he might have to start adding a few sentences himself. Neither you nor he will be very pleased with that, he because he may have to work late to get it done, and you because those few sentences will probably not be written under the best of

conditions: you may be reliant on this piece to win other commissions, so you want it to read well. Delivering slightly too much gives the editor a few sentences to play about with when laying the article out. It's easier to cut than to create.

For this reason you should do your own cutting, which is where the *Amstrad* comes into its own. Editing is easier than constantly retyping. You must have a word count program, even if it is only *LocoSpell*, though at least this gives you some amusement on the way – like wanting to replace 'knicker' with 'knacker'. If you're anything like me then you'll write your piece feeling that every word you put down is essential. Then you discover it's 200 words too long. You must ruthlessly edit – take out single words, whole sentences and rewrite phrases to a shorter length. Don't play at temperamental artists: be a craftsman.

Ernest Hemingway said that "You must learn to kill your babies" – he was talking about writing, of course. No matter how good a sentence is, or how illuminating you think an incident is, if you've got to get rid of 200 words then something's got to give. There, I knew there was another comparison with knicker elastic!

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FLIPPER could do some pretty surprising things. It could split your PCW in two, letting you run *LocoScript 2* in one half and a CP/M program in the other. Or it could let you load two CP/M programs at once if you preferred, one in each half. It could FLIP you from one half to the other in under 3 seconds, any time you wanted. And it wouldn't lose your place.

Unfortunately, there were a few things it

couldn't do. In particular, it couldn't load either *Mini Office Professional* or *LocoFile*. Serious shortcomings indeed.

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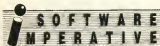
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Two new packages to help you plan those merges

PROTEXT MAILMERGE TUTORIAL**£15 • Thompson Computers • 0733 331796**

Generally, disc-based learning aids have got to be good to merit giving them as much as a second glance. That's because they nearly always involve quite a lot of file-swapping, not to mention reams of printout. If the tutorial is no good in the first place, then the chances are you're simply not going to bother.

This one has been designed to show people how to get the best out of Protext's mail merge facilities. The course comprises four sections: a basic introduction to mail merging, how to be selective when you're doing it, how to set up loops and counts and alter the information in a datafile and, finally, how to incorporate into Protext information created under other programs (like databases and spreadsheets).

Thompson assumes – and states as much – that the user will have a basic understanding of how to use Protext. That sounds fair enough – anyone who wants to learn how to mail merge in Protext will probably already be completely familiar with its more elementary commands.

On the other hand, tutorials are written for novices. On the first page, the user is informed that he will repeatedly be asked to 'swap to the second document' when consulting relevant example files. Then you are told that you will only be able to do this if you have Promerge Plus on your disc.

RANGE OF FEATURES 2**EASE OF USE 2****PERFORMANCE 3****DOCUMENTATION 2****8000 PLUS VALUE VERDICT 2****DATADIARY****£16.95 • A4 Ideas • 0249 815082**

DataDiary is just the latest in a long line of PCW-spawned diary inserts. For ease of use, it works from within LocoScript and A4 Ideas have assumed a reasonable working knowledge of that famous word processor. The package has been produced in two versions: standard and special. This simply means that included in the latter version are two sets of specially designed LocChar-generated characters. LocoScript 2.12 or later is needed for these to work, but, once installed on the disc, these special characters are available for use in all your documents, on any disc.

The great thing about DataDiary is that you can buy it at any time of the year and still have exactly twelve month's supply of inserts available. Because it's constantly updated, it can run from January to January, December to December and so on – something which is worth knowing.

The version we looked at only produced A4-size printout. This looks more than adequate for desk use at work or for heavy-duty consultation in the home. The sheets can be printed out ready for handwritten entries, or edited on the screen and then printed out. All you have to do is punch them with holes and insert them into a loose leaf A4-size binder. If A4-size inserts sound a little unwieldy, then DataDiary is also released in a Filofax-size, page-a-day form.

As well as producing year-to-a-page calendars, DataDiary can also print out month-at-a-glance planners on which to jot down some brief reminders; mind you,

The naive user might assume that Promerge Plus has been thoughtfully included, but unfortunately it isn't there. Only on phoning the software company do you discover that particular piece of information is irrelevant to PCW users. You resort to printing out the guide.

The tutorial files are not all that inspiring (the odd spelling mistake and left-out word denote a general lack of attention to detail), but it's probably not unreasonable to be slightly sceptical of a tutorial that also advises you to pick up the Protext manual (renownedly obscure) and leave it open by your side while you work your way through the course.

The various stored commands requisite to mail merging (>df and >rv for example) are introduced. All well and good, but is that going to mean anything to the naive mailmerger unless he or she is also told exactly where to insert them? To someone who's only ever done a smattering of mail merge theory before, the answer is obvious. To the complete novice, it's nowhere near precise enough. It's not until you load up the example files that the fog begins to clear. Neither are you shown, keypress by keypress (which is what every beginner needs), how to complete an actual merge.

Having said that the tutorial does show you exactly what Protext can offer as a mailmerge program. It covers generating invoices and quotations, printing out address labels, and shows you how to wrap your mind round the potentially complex but extremely powerful concepts of loops and nested loops. It's also true to say that while the text may not be completely self-sufficient

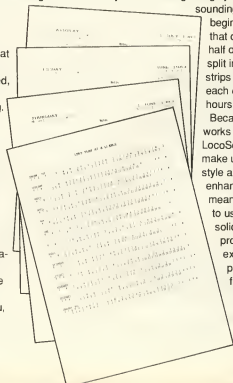
as far as understanding what's involved is concerned, there are plenty of example files to back up the points that are being made.

In a nutshell, then, for anyone who is at all familiar with Protext and the theory behind mailmerging techniques, this tutorial is probably a winner. For those who don't know all that much about either, it might be time to think again. ■

they'd have to be fairly brief as you've only got one line at your disposal. However you're unlikely to forget any days of outstanding national significance, as anniversaries of the most obscure nature are all recorded throughout the months.

As well as those easy reference planners, DataDiary also produces a far more utilitarian page-a-day format. As well as including sunrise, sunset, phases of the moon and tide details, the program also includes each day's current zodiac sign as well as any notes relating to highly improbable-

sounding events which begin or take place on that day. The remaining half of the page is then split into horizontal strips allocated to each of the working hours of the day. Because the program works from within LocoScript 2, you can make use of all of its style and text enhancements. It also means that it's a doddle to use. DataDiary is a solid, no-nonsense product that does exactly what it promises you and is flexible enough to use either at home or in the office. ■

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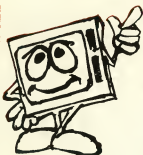
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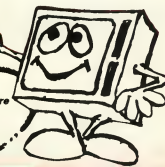
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KAVIN

A-WANDERING I WILL GO

Steve Patient muses on software and whether it travels or not

The problem with some computer people is that you just can't take them anywhere. This isn't because they have excessive body odour (as a rule) or because they will pick their noses in restaurants (though some do) but because they are no longer portable. Many of them can only function effectively when sitting in front of a computer and once removed from its environs they simply cease to work - this is especially true of writers.

The trouble is that once having become used to the ease with which a computer allows your words to follow your thoughts, pen and paper is simply too rigid a medium for anything other than note-taking. Of course, it isn't just the computer; the software is every bit as important, and most writers can no more work with the 'wrong' software than they can with paper; once the siren has ensnared you even another siren can't get you away.

All of the above is in explanation for my recent joy; I have become portable. Regular readers will remember a short series we entertained concerning Cambridge Computers' Z88, a computer no larger than an A4 pad of paper but sporting a full-sized keyboard. This was so admired by our reviewer that he was loathe to part with it and only its sad demise brought it back into the 8000 Plus suite of designer offices.

I admit to only a glancing acquaintance with the Z88 previously (a glance full of techno lust) and so sent it off for repair, which Cambridge Computer promptly did. I've now had the machine for a few weeks and have had a chance to evaluate it for myself, and it's good.

The Z88 represents the first time I've ever used a computer whose built-in software is intended to provide everything you might need: I was doubtful as to how well it could work; after all, software is something you load in from disc as you need it. But the Z88 surprised me.

All right, the spreadsheet aspect is a bit of a red herring, no one would really use a spreadsheet in a window eight lines deep, like trying to wallpaper your hall through the letter box (or is that the tag line of a completely different joke?) but the word processing facilities of Pipedream are usable.

After a weekend of practice both my son and I could cope with writing programs in Pipedream and zipping them over to Basic, CLI files (the equivalent of SUBMIT files under CP/M), hierarchical directories, devices, and the pop-ups. It's really a lot of fun; you can leave the room without leaving the computer and I shall be buying one just as soon as I can afford it. Mind you, whatever Cambridge say, the thing eats batteries as though they were Smarlies.

Since I now feel confident enough to entrust actual work to the Z88 I shall be reporting on how I get on as I sit among the hilltop tulips, admiring the shapes of clouds, and writing, anon.

Marshmallow feeling

The long session with the vagaries of the Z88 represented the first time in a long time that I have actually enjoyed learning a new piece of software - albeit not on the PCW - which process set me thinking again (what, twice in one month, they cry). Many PCW owners never go through that exciting phase of computer ownership when they get to play with all sorts of weird and wonderful software, most of it never to be used again, perhaps, but an exciting time of discovery while it lasts. And important, too, since how else are you to get a feeling for what suits you?

Mastering a powerful software package, be it for business or pleasure, does take a considerable degree of effort, and I think we've all only got so much of that to go round. Finding a word processor, database or graphics program that does what you

want in the way that you want to do it can mean tackling steep learning curves several times, which is wearing. After a while, with the software mastered and in daily use, there is a marked reluctance to change even if it no longer suits the task in hand.

The figures we've seen suggest that as many as ninety percent of PCW owners never learn any software except LocoScript. Could it be that they found the effort so great that they can't face the prospect of learning anything else at all? If so they're doing themselves an injustice; even with the menus LocoScript is a complex package. Few other programs will tax anyone who has mastered it.

Wordmongering

Now there are those who claim to have detected a certain bias, vis a vis word processors, in these pages, and I am not about to deny it. Surely one of the main reasons why you're still reading is to see some informed opinion (and one man's opinion is another man's prejudice). Apart from a bit of programming I use my computer for the same things as almost everyone else, mucking about with words.

I've written them using everything from public domain text editors on unheard-of old machines to Wordperfect 5 on a fast IBM AT compatible. Among other programs I've used Wordstar, PC Write, Macwrite and Word (on the Apple Macintosh). On the PCW I've used LocoScript 1, Tasword and Wordstar.

Of these the ones I've used most are WordStar, LocoScript 1 and Protext. And there's no doubt in my mind that for my purposes Protext is far and away the best; but I'm not saying that Protext is the best word processor, everything depends on what you need to do.

One thing I almost never do is to print my work out - it all goes onto disc, but something I do frequently is to load, alter and save files, sometimes several in just a few minutes. In fact in the past hour I've worked on seven different text files, pulled two of them apart and created three different files from the bits. This kind of thing is almost effortless in Protext.

Something I never have to do is to create structured documents, such as scripts. If I did then I probably wouldn't use Protext, it doesn't lend itself well to that kind of work. While the amount of time I've spent on LocoScript 2 can be measured in minutes rather than hours, it's been long enough for me to get a feel for the way it works, and so while previously I would have chosen WordStar for scripts (yes, really) now I would choose LocoScript 2, it would be far better.

But all this leads me back to the point that unless you've had at least a casual acquaintance with a variety of software you're simply never going to appreciate the difference that the right package can make to the work you're doing. I mean, you could write a book with RPED, but it won't make it any easier. And despite the shortcomings of Pipedream, it will go for a walk with me, which Protext never would.



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SPREAD..... THE WORD!

Tim Smith, not normally a calculating sort of person, gets his head down and looks at the serious side of software

The words 'spread' and 'sheet' are fairly innocuous, both associated with beds perhaps? But when combined into the term 'spreadsheet', they can either strike fear into the heart, or plaster beatific smiles across the face depending on whether or not you've been initiated into their mysteries. If not, then read on for hope; if you have, then see what the opposition has to offer as we put four spreadsheets up against the wall and frisk them for concealed weapons.

The spreadsheet is to figures what the word processor is to text. The latter allows you to manipulate words to your heart's content. The former makes numbers and formulae fall at your fingertips. You merely have to learn the ground rules before finding yourself coming up with ideas for making the year-end statistics look that bit more encouraging or your bank balance look a bit more, well, more.

A simple idea; the spreadsheet may be viewed as a piece of electronic paper which has been ruled into rows and columns. Beneath this disguise lies a powerful calculator - maybe even a database - which will allow you to get some real use from the 'computer' part of your PCW. Like the word processor, the spreadsheet provides almost infinite amounts of electronic paper on which to work. You can do all the moving about, re-arranging and tidying up of data which would normally be achieved using several pads of A4.

True Grid

The true strength of the spreadsheet, however, lies in its ability to carry out many calculations quickly and efficiently across a grid of numbers that are inter-dependent. This concept is important enough in business to have spawned an entire software industry, but the resulting software is so flexible - to which all those who ever have to resort to the hypothetical *what if?* calculation will bear witness.

In the office, you might have a sheet of paper covered with figures - say a unit cost analysis for a Fission Fusion Cushion Factory; at home, on the other hand, you might have an analysis of various pension options. Both situations require you to ask yourself the following question: what will be the repercussions if this figure goes up, or that one goes down?

Staying with the cushion factory for a minute, each of the figures will hang around the sheet waiting to be calculated. Such large-scale calculations take time and you will need a neat version before the results can be presented to the bank manager, shareholders or spouse. Then, horror of horrors, there is a rise in the price of raw Strontinium 453, a basic raw material, due to a strike in Ilford. The figures look restless, recalculation needs to be done. Without the spreadsheet, you're going to need more paper, more coffee, an immense reserve of patience and batteries for the calculator.

Each addition, subtraction, multiplication or division, (let alone exponentials, negatives and of course SINS) changed in one cell will have an effect on the others. You will probably end up with sleep deprivation, a severe caffeine habit as well as mistakes. Finally, if the final report has to be okayed by anyone higher in your esteem than Sooty you will need yet another neat version.

Our Daily Spread

Ideally, spreadsheets should smoothe the creases out of your life, allowing you to build up templates, complete with pre-programmed formulae to suit your specific needs - for example, an instant currency conversion table. Just as a word processor can save phrases or blocks, so a spreadsheet can save mathematical processes for later use.

While all spreadsheets operate in much the same way, you will need to look around to get one which fits your exact requirements. At a basic level, every spreadsheet will fill the screen of your PCW with a grid, the columns of which will be labelled with letters, the rows with numbers. The place where these rows and columns intersect defines a box or 'cell'. Each of these cells is therefore referenced by a letter followed by a number; for example, A1, B66.

If your spreadsheet extends beyond 26 columns, the letters will double up and the references will become AA33, AB33 and so on. This will become more apparent when you look at a working screen.

Into each one of these cells you can incarcinate some text, a number, or a formula which can then be referenced by another cell. Each cell has a unique reference so entering the value 4 in cell C22 allows it to be used in cell D77 in the following manner: **11+(C22*5)**. This will give a result of 20. Consequently any change in the value of C22 will affect the number in D77. So if the price of Strontinium 453 is what is actually kept in cell C22, then changing it will quickly modify D77 and the rest of the sheet - which uses that value to calculate the price of fissile cushions. Can't be bad, really.

Four Sheets to the Wind

Most of the time you move around the spreadsheet with the arrow keys to the right of the PCW keyboard but there is a Goto command as well. So if you are stuck in cell Z80 when you need to be in A1 you can get there easily without cursoring tediously all the way (in Cracker, for example, you press J for jump and then fill in the coordinates).

Working in the far flung regions of a spreadsheet means that you can't see changes occurring in other places. Most sheets provide an option called windowing to overcome this. Windows are small sections of the spreadsheet which can be shown simultaneously on screen. For example a section ranging from A1 to C8 may be in front of your eyes along with the block Z12 to A22.

That's enough of the general stuff. A true understanding and appreciation of spreadsheet power comes with actual use. But, with long term use you might realize that nigh on £50 was a wee bit too much to pay when the back of a matchbook could have served to calculate your current account surplus. So, now is the time to examine a few of the spreadsheets you will find on the market and decide both whether or not you need one, and which one it's to be.

Each has its own qualities and equally each has its faults. At their weakest, spreadsheets are glorified calculators just as word processors are turbo typewriters. At their most powerful they are tools which do your bidding, are motivated by your imagination, and can change the way you work.

We will consider four spreadsheets of varying prices and abilities beginning with the best known in the PCW world.

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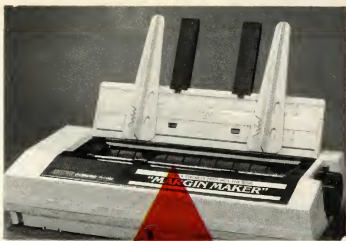
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ON TEST

Lock up your daunters

One of the handier features common to most spreadsheets is the ability to Lock or Protect cells, rows or columns. The 8000 Plus office is known for its enthusiasm for folding. In order to ensure that swathes of work were not lost most of the cells in the screens shown here were locked and bolted. This of course led to much cursing as bugs emerged from the PCW whenever protected cells were attacked.

SUPERCALC2

£49.95 • Amsoft/Sorcim (091 567 3395) • ALL PCWs

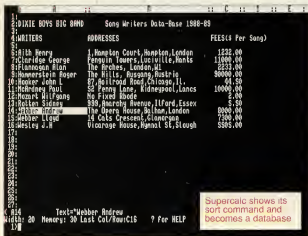
The manual which accompanies SuperCalc is probably one of its most obvious assets. It assumes little or no prior knowledge and even has a section at the back called 'Ten Minutes to SuperCalc' which will lead the beginner through a few light exercises.

Once loaded, the first thing that strikes about SuperCalc (apart from that capital C) is the fact that the HELP is so easy to get at—in fact SuperCalc won't let itself load if its Help file isn't available on the disc.

On first loading, you will find yourself in the top left hand corner of the spreadsheet (A1) with cells all of a uniform width. This can be altered as can most of the spreadsheet parameters; for example, whether numbers and text are right or left justified. Windowing is available as are many scientific functions.

Entering commands and data is achieved with a minimum amount of fuss from an input line at the bottom of the screen. You have to separate the entry of text from numerics (or functions) by the use of the " key (pressing this precedes the insertion of the former, for example).

Commands are entered by first using the / key. In this latter case, you are given plenty of prompting, maybe even a little too much for



Converting to the Preached!

SuperCalc files (these have the .CAL suffix) store data in an esoteric form which cannot be read by other programs. Equally other programs will create files which are Greek to SuperCalc.

In order to get around this seemingly intractable problem, SuperCalc comes with a utility called SOI or Super Data Interchange. In theory, this converts .CAL files to either CSV (Comma Separated Value files), SDF files (SuperData Format) or .VC (VisiCalc...one of the early spreadsheets) files and back again. In very simplistic terms, it does this by use of good old Ascii, the supposed common language for computers.

In the same way that making an Ascii file (pronounced Askey to those who wish to talk about it) in LocoScript will strip the text of all control characters such as underlines and bolds, the production of a CSV file in SuperCalc will remove formulae, repeated underlining or biffs generally leaving you with no-nonsense raw data. This may seem like something of a disservice to conversion. It isn't. This raw data is the very stuff of computing life and the more of it you create for your own use, the more use you will get from your initial investment.

If you can use data created by SuperCalc with other applications surely the inverse must be true. For once this much abused paradigm works. If you have a Comma Separated file, such as one created in dBase or another file handling language you should be able to convert it for use with SuperCalc. Suddenly huge vistas of use appear. For example, you might create a database in Basic and then want to carry out some serious analysis of the information therein. Theoretically, you should be able to do this.

the experienced user who has just hit the wrong number by accident.

It's only when you need to output the fruits of your formulations that a problem manifests itself: printing. SuperCalc dislikes prettifying anything, even printed reports, and getting those reports in the form you want can prove trying.

In conclusion, as a tool for the beginner or the adept spreadsheeter, SuperCalc is extremely useful.

THE CRACKER

£49.95 • Newstar Software (0245 265017) • ALL PCWs

Cracker is full of surprises. Firstly the grid which is the basis of any spreadsheet. When you get into the program, you find that there is no grid. You have to build this up yourself which is not necessarily a bad thing as it means that any extraneous details are avoided and the PCW can concentrate on the real business of calculation.

Once the basic spreadsheet is set up, which can take a minute or so, you meet the first real pain in the proceedings. Cracker will only understand co-ordinates in upper case. This may be a pernicious point but once you have become adept at producing your formulae and are rushing about the sheet, you may find the constant beeping when you hit 'a' instead of 'A' starting to wreck your concentration; and it's wholly unnecessary at that.

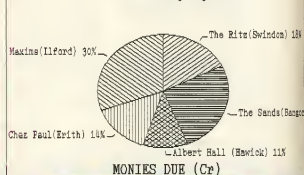
The second surprise with Cracker is that a package with as much to offer as this does should have a manual which tries its damndest to confound you at every turn. It suffers no beginners and gives no quarter.

Unlike SuperCalc, or even the help pages which come with Advantage Software's Public Domain Spreadsheet, the Cracker not only leaves a great deal to be desired but actually has a great deal which is desirable and which it seems to obscure. The best advice here is to experiment for all you are worth in order to get the most from the spreadsheet.

The single point which raises The Cracker above the common herd must be its ability to produce graphs. Eighteen of them to be exact. These range from the straightforward histogram, through Hi-Lo line graphs to the impressive looking pie chart. All of the graphs may be printed to the screen, giving you the opportunity to clarify the layout before printing, or even turning the PCW into a visual aid for meetings or conferences. Once you've got everything the

The Dixie Boys Big Band

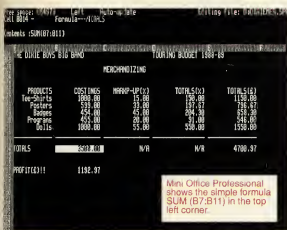
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THE CRACKER	255	52	Yes	Yes	19k	Yes	Yes	Yes
MINI-OFFICE	100	100	Yes	Yes	368k	No	Yes	Yes
ADVANTAGE	53-60	26	No	No	35k	No	No	No



way you want it, it can produce some reasonably high quality copies on the printer.

Finally, Cracker really is much stronger than it lets on. Most certainly not easy for the beginner but with perseverance it becomes well worth the effort due to its sheer power and utility.

MINI OFFICE PROFESSIONAL £29.95 • Database Software • (0625 878888)

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Note that this review refers to Mini Office version 1. If you are using this and do not have John Hughes guide to Mini Office – All In One Business Computing (Sigma Press) – then it would be a good idea to get a copy. The manual which accompanies Mini Office simply will not help.

The spreadsheet section of Mini Office is, well, useful. With SuperCalc and Cracker you have a Sort routine which enables you to use the sheets as databases – this is lacking from Mini Office. As a database is provided with the suite however this is not a dramatic omission.

The spreadsheet itself is a good solid example of the genre. It offers various functions such as SUM, which will save you having to type in A1+B1+C1+D1. You are also able to repeat cells, rows or columns in either Absolute or Relative form. In effect this means that an entry such as A1-B1 which appears in cell D3 may be moved to cell Z13 and made to read A1+Z1.

Entering data, text, numbers or formulae, is a piece of cake – or rather pie chart – with Mini Office. For example, if you enter 234 the program will assume that you are entering a numeric string, whereas if the entry begins with a letter Mini Office assumes you are entering text. In fact the only two data entries which you have to signify are functions, using ALT F and text strings, ALT S, if they need to extend across more than one cell.

These functions are common to most of the spreadsheets examined here. Mini Office really offers a good, standard spreadsheet which, when used in conjunction with the other utilities in its suite, adds up to a strong business orientated unit. If you wish to use scientific functions or intend to use your spreadsheet intensively for in-depth analysis then it would probably be a better idea to get SuperCalc or Cracker. If, however, you are looking for a personal account manager or a one person business analyser then Mini Office will do the job.

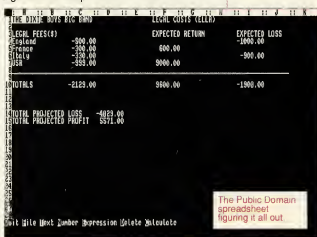
Finally, if you were going to buy Mini Office anyway – for its word processing perhaps – you would be getting a good spreadsheet for nothing. It is easy to use, quick and will produce graphics.

PUBLIC DOMAIN SPREADSHEET £5.00 • Advantage Software (0242 224340) • All PCW's

Only a fiver! Yes, well so far we have been looking at offerings from large software houses. This, however, is an example of a public domain product, and not a bad example either.

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(itself £3). This includes the manual which is a fairly good piece of work. The spreadsheet itself is similar in appearance to the others we have looked at. The familiar grid is there, more limited in size than the commercial offerings and in your ability to customise it (you can't resize the cells though you can write text across several of them). You enter commands, which are shown on a small menu, at the input line to the bottom left of the screen. Advantage's Public Domain Spreadsheet is one of the best things a beginner could get their hands on. Entering data is easy enough, if slow. It entails informing the program of the type of data, and deleting any data already within the cell. In effect you have self-locking cells. Movement around the sheet is an arduous affair but speed isn't everything. From what we have already seen the limitations of this package are manifold. You don't have access to functions such as SUM and so have to enter such expressions in long hand. This spreadsheet is very limited with a disturbing tendency to crash when entering data or functions below line 50 (Advantage have informed the author of this) but despite these caveats there is an ease of use and value for money here which makes it ideal for those testing the waters.



Pie eyed

When the new Cracker manual finally arrived in the corner bag it was found to have been upgraded to the point where in section 7.16 (which deals in graphs) there appeared the 'unfamiliar' segmented circular chart. We thought it was a pie chart but what do we know?

Pretty Polly Printout

For more attractive printouts it's possible to send printer output to a file instead of the printer using the Put utility. Instead of using the program's own output to the printer, this creates a page image ASCII file which is easily dealt with by Protex or LotusScript for final branching.

In conclusion

There, then, are the four spreadsheets on the market at the moment. We did try to get hold of SpreadsPlus, a spreadsheet which used the RAM disc memory of the PCW to extend the size of the workspace available. Indeed it is still advertised but at this time cannot be had for love nor money.

Those which we have examined here their strengths and flaws. The two top-of-the-range packages, SuperCalc2 and Cracker are truly powerful and offer far more functions than we've space to mention here. Of the two SuperCalc is probably the best all round package. As for Mini Office, if you were going to buy the entire package you would be getting a good spreadsheet but not a great one. The public domain program is only really useful for small scale use or as a learning aid.

The golden rule with all of them is to experiment as much as possible. Among the applications available to the PCW suite, the spreadsheet series very highly indeed in terms of the power it offers.

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No	No	Yes	Yes	No	Yes	No	No
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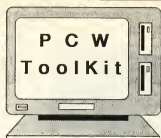
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8000 PLUS

HARD THINKING

It can be difficult enough thinking using the original kit; as John Connelly explains, computers can find it even harder

There are basically two types of people working in Artificial Intelligence. On the one hand, there are those who spend their whole time trying to define 'intelligence' so that, one day, they might be able to replicate it in a machine. They want to build a machine which is in itself intelligent.

On the other hand, there are those in Artificial Intelligence (AI to its friends) who prefer to program computers to behave or act intelligently. The distinction is not as slight as it seems.

I was once thought that the ultimate in intelligent machines would be the chess-playing computer. Today, competent chess programs abound, available for all popular micros, including the PCW, and programs written for powerful mainframe computers are capable of playing at Grandmaster level. Few, if any, would be rash enough now to claim that these programs render a computer intelligent. They do, however, make a computer behave intelligently. By painstakingly looking at every possible move at an advanced level, a computer can be made to look as if it is playing chess at an advanced level. And, of course, effectively, it is.

It achieves the same results as a clever human chess-player but by non-*clever* means (although AI has contributed a number of 'intelligent' search routines which have speeded up chess programs, and others, by considerable factors).

The AI dreamer is vastly outnumbered by the AI realist. And yet, if anyone at all, it is the dreamer who springs to most people's minds when Artificial Intelligence is mentioned. I intend, in this short series of articles, to look at the realistic and practical side of AI and, perhaps, to give by simple examples some insight

into the kinds of problems that AI researchers have to grapple with on a larger scale.

It is a field, therefore, with a number of disparate aims, most of which have still to be achieved. Whether or not these aims are in fact achievable does not really matter since, like the space programme, AI has

generated and will continue to generate many highly useful spin-offs as research progresses.

Logging on

One of these spin-offs is to be found on our friendly PCW. On side four of the PCW's systems discs is a programming language called Logo, originally developed from LISP as a means of applying AI techniques in education. Its ability to manipulate symbols (letters, words, sentences, lists) in a relatively simple way gives us the ideal (and cheap) means of demonstrating some basic AI techniques and issues.

A certain Technical Editor, before he became Technical Editor, once summarily dismissed Logo thus: 'Logo is eminently suitable for writing comedy routines.' Well, I have not written a comedy routine, but I have used Logo to write some poetry (*a similar occupation - ex Technical Editor*). Consider poet's corner (*overleaf*); four verses, similar in structure and meaning, but only one of them written by a real live human poet.

Before you glance at the end of the article for the answer, reflect on the implications of the verses. What are the yardsticks by which you might gauge what is a 'good' poem and what is doggerel? Or do you prefer to depend on

good old intuition? And even if you are able to isolate the original fairly quickly, how do you justify your choice?

If you can't justify your decision, or if you simply chose the wrong one, does that mean that the ersatz verses are adequate attempts at poetry? And if, like me, you accept that writing poetry is a reasonably clever thing to do, are the three fakes therefore the work of an intelligent computer?

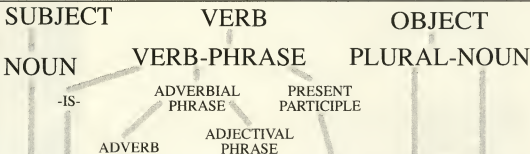
Of course not. But they are the work of a computer which has acted intelligently. A better way to think of it might be to see the computer's actions as an extension of my intellect. I gave the computer a selection of words to use as well as a structure within which to use them, but the PCW itself came up with the particular word-orders in the verses.

Sentenced to death

How was it done? Take as an example our esteemed ex Technical Editor's declaration: I can demonstrate how Logo can be made to put some understandable words of English together. In the Phrase Box you will see the sentence parsed (taken to bits). This is what I have done with Steve's sentence. The sentence is basically composed of:

SUBJECT VERB OBJECT - which can be clarified as:
NOUN VERB-PHRASE PLURAL-NOUN

The nouns at the beginning and end are easily dealt with. But the verb-phrase can be further de-composed into: 'is' **ADVERBIAL-PHRASE PRESENT-PARTICIPLE**



LOGO IS EMINENTLY SUITABLE FOR WRITING COMEDY ROUTINES

Preservation order

To preserve your work on disc, type save "any_name" which will save every procedure under the title given. Individual procedures cannot be saved easily: it's all or nothing. Typing load "any_name" will load it all from the disc.

Note that the particular version of Logo on the PCW has a rather silly trait: it will not recognize commands in upper-case - so any word that is an in-built Logo primitive (as they are called) must be entered in lower-case.

The 'is' I have decided to keep and it will remain in all new versions of the sentence, but the uppercase parts-of-speech will be replaced by words which will fit the syntax (the structure) of the sentence. However, the adverbial-phrase can be de-composed yet again into: **ADVERB ADJECTIVAL-PHRASE**

The adjectival-phrase will consist of an adjective and a preposition (for, at, etc). These will be dealt with together.

If we begin by thinking in terms of the overall task - to reconstitute Steve's sentence using a random selection of suitable words - the main procedure (we will call it comedy) will look like this:

```
to comedy
noun
verb - phrase
plura - noun
end
```

This little piece of code includes reference to procedures which have not even been written yet, but this demonstrates the flexibility of Logo. We can program as we plan. Within comedy there are three sub-procedures, each of which will contain a number of sub-sub-procedures. The end result, we hope, will be a sentence which mimics the structure of Steve's hard-hearted declaration. The complete program can be seen in the Comedy Box.

Play listy for me

The three procedures called directly by comedy are **noun**, **verb phrase** and **plural noun**. The procedure **noun** selects a name 'randomly' from a list of possibilities (in this case, eight, but these can be freely changed). If a name has more than one element, it has to be contained within brackets. So, [Alan Sugar] is bracketed, while his alter-ego, God is not, since the latter has only a single element. Make sure, however, that the whole list is bounded by external brackets (as all lists in Logo have to be).

The selection is made by another little procedure called **choose** which has

been written specially to pick out, in a random fashion, one item from a given list of any length (except a 'list' with no members, the empty list). **choose** is used in each of the other procedures whose task it is to select words for the sentence. **plural noun**, **adverb**, **adjectival phrase** and **participle** are all identical in form to **noun**. The last three are all called by the procedure, **verb phrase**.

The final procedure, **space**, prints 'character 32', the space character. Without this, all the words in the new sentence would run together.

The command type writes to the screen and leaves the cursor on the same line. The command **pr** (short for 'print') writes to the screen and then follows with a line-feed and a carriage return; in other words, the cursor moves to the next line. This is why type is used for words in the middle of the sentence, while **pr** is used for the last word in the sentence.

Once the whole program has been entered into the Logo editor, pressing <EXIT> will take you back to the original Logo screen (called its Text Screen) and each procedure will be confirmed by the messages:

```
comedy defined
noun defined
```

and so on. An individual procedure can be re-worked by typing **ed comedy** (or whatever the procedure-name is, and note the leading speech marks only) while **edall** will dump every defined procedure back into the editor.

Errors of comedy

So long as the program has been entered properly, simply typing **comedy** [ENTER] will produce a sentence mimicking Steve's original, using a selection of the words listed in the program. To save you the bother of typing comedy every time you want to produce a new sentence, try **repeat 20 comedy** which will produce twenty sentences one after the other.

At this stage, the sentences produced by comedy are less important than the method of their production. Given the relative difficulty in mimicking a simple sentence like Steve's, you can imagine the complexity involved in trying to reproduce a longer text. Poetry, because of its word-economy and its grammatical flexibility, is easier to reproduce than meaningful and mature prose.

Many AI researchers are working on these kinds of problems at highly complex levels. One goal of Artificial Intelligence is to produce a computer that can be controlled by spoken dialogue between user and machine. Along the way who knows what other benefits it will bring? Just think what the combination of an 'intelligent' computer and a sophisticated speech synthesizer (see 8000 Plus, Issue 30) could achieve. ■

Comedy box

```
to comedy
noun
verb phrase
plural noun
end
```

```
to noun
type choose [[Steve Patient] [Margaret Thatcher]
God [Eric Clapton] [William Shakespeare]
[Alan Sugar] [The Amstrad PCW]
[Kylie Minogue]]
space
end
```

```
to verb_phrase
type "is space
adverb space adjectival phrase space
participle space
end
```

```
to space
type char 32
end
```

```
to adverb
type choose [quite totally really not mildly wildly
regrettably particularly]
end
```

```
to adjectival_phrase
type choose [[perfect for] [ideal for] [useless at]
[incapable of] [responsible for] [calm while]
[unfit for] [overrated at]]
end
```

```
to participle
type choose [loving protecting [dealing with]
[writing for] kissing processing [dining with]
[appealing to]]
end
```

```
to plural_noun
pr choose [[Young Tones.] [280s.]
[Glasgow Celtic.] [flesh eaters.]
[Neighbours.] sheep. men. women.]
end
```

```
to choose: options
make "choice count:options
op item (1 + random:choice):options
end
```

Poets corner

We will by this tenderness
celebrate no treason,
nor turn from friends,
be peacemakers in season.

Let us in our intimacy
give no Judas kiss,
not betray neighbours,
be carefree in timelessness.

Let us for this love
commit no crime,
not destroy others,
be calm in time.

We can by our friendship
realize no evil whim,
not offend strangers,
be tranquil in the interim.

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Take a blank formatted disc for the A drive and copies of your two PCW master discs. Using PIP, copy the following files from the master discs onto the new disc:

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SUBMIT.COM
SETKEYS.COM (all on side 2)
KEYS.DRL
LOGO.COM (both on side 4)

(You may not have J14CPM3.EMS, there are other versions. Just so long as it's the file on side two with EMS at the end.) Now, using RPED or a text editor, create a new file on the Logo turnkey disc called PROFILE.SUB. This file should contain just two lines:

```
SETKEYS KEYS.DRL
LOGO
```

Now whenever you want to use Logo, simply turn on your PCW, insert the Logo turnkey disc (or reset) and Logo will load automatically.



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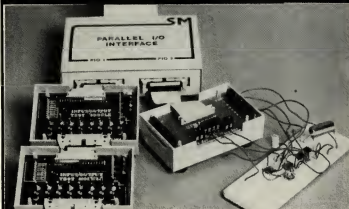
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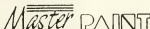
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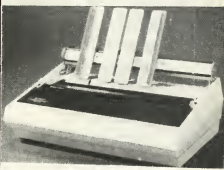
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BENCH MARK

Even the healthiest among us can find that hours spent in front of the

PCW result in an aching back. E D Coote, with worse problems than most, offers his solution

I purchased my PCW9512 in May of this year in a desperate attempt to find a way of writing which would not cause me pain. I am a retired teacher of craft who had to leave the profession due to health problems; I suffer from cervical spondylitis. This manifests itself as pains in the arms whenever I attempt to do anything, whether it be knocking in a nail or writing a letter. If it goes on too long, I know about it and have to stop.

Being a teacher of Craft, I am well-versed in the subject of ergonomics but know nothing at all about computing. I wasn't even aware of 8000 Plus until August of 1988 when I purchased a PCW so that I could find out more about word processing.

As I became more proficient, there came the moment when I had to do something for real. I had to write a letter. Now this was no ordinary letter but a 'Round Robin' which my wife and I send to our family of five children and their families once a month. It was a very busy period and the news extended to five pages. About the second page, problem number two made itself known to me; my arms were hurting from having to hold them high enough to reach over the keyboard.

Designer desk

Problem three was quickly on the scene as well when my wife realised that the reason she could not find some of her books was because they were supporting my screen. "Find some of your own books", was her retort as she marched off with her possessions.

The round robin letter was eventually finished in small bursts of activity and I set my mind to the problem of designing a stand which would contain the three pieces of equipment in a manner that would allow me to use it without causing pain either to my neck or arms.

The word "Ergonomics" is really a fanciful name given to the study of the human being in relation to his use of machinery or similar artefacts. The classic example is that of the car racing driver who must be able to control his machine at speeds of around two hundred miles an hour for hours on end. He must be comfortable and all the controls must come easily to hand without the driver taking his eyes off the road. The design of typists' desk is another example. The surface of the desk is lower than that of a normal desk so that the typewriter keyface is low enough not to create a strain on the typists' arms in having to hold them too high.

Computing can damage your health

Keyboard operators actually have their very own industrial disease (which means that the government recognises that it's caused by your job). This is the hard to pronounce Tenosynovitis, damage to the tendons of the wrist.

But there are other problems such as sore eyes from staring at the flickery screen for too long - you should take your eyes away for at least fifteen minutes in every hour during prolonged work sessions.

The most common problem is postural; it is very important, if you plan to write more than the occasional letter on the PCW, to make sure your chair keeps your back straight, that your wrists are slightly above the keyboard with your forearms horizontal. The monitor screen should be at ninety degrees to your line of sight, which means either directly in front of your head or tilted if below that level, and between two foot and two foot six away from you.



The finished product: an ergonomically designed workstation.

I started off seated at the chair I would use and measured the distance from the floor to the top edge of my thighs, twenty three inches. I added an inch on for clearance in getting in and out so noted that I required twenty-four inches.

Measuring up

The keyboard is wedge-shaped so I noted the height of the front and back – one inch and one and half inches respectively. Using some scrap material, I made a mock up of the surface to take the keyboard and gradually raised the back edge until the angle of the keyboard felt correct to work on.

The back edge of this surface gave me a starting point for the disc drive and screen unit. Measurement was quite difficult but I got over the problem with use of a large try-square. By measuring along and then up to certain points, I was able to determine the angles that were other than a right angle.

I cut a piece of hardboard to represent the front face of the screen and disc drive unit and stood it up behind the keyboard. It seemed too close to my face so I angled it back a bit until it felt right and also was square on to my line of sight. The hard board was supported in place and lo, I had determined the front position for a shelf which would support the printer.

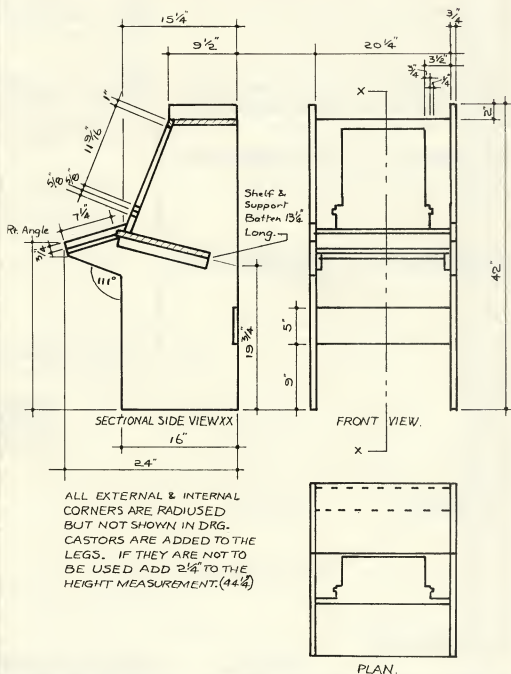
The printer requires nine and a half inches of shelf from front to back and I had then ascertained the depth of the complete unit. A surprisingly slim two feet from front to back. Even more amazing, the total height to the printer shelf from the floor was only forty two and a half inches. I had been prepared for it to be more.

Again using my large try-square, I worked out all the measurements related to the floor and transferred them on to paper. The width measurements were related to the size of the keyboard and printer which are virtually the same, eighteen inches. I made the necessary allowances for a set of castors, applied a liberal dose of aesthetics and had a design I could get out of a standard size of fibre board, three quarters of an inch thick (an eight by four sheet).

Assembly required

Using the same principles as a dressmaker, I laid out my measurements on the board so as to get the least wastage and using an electric jig saw, cut out all the shapes. A word of warning here, if you are using the dining room chairs and table as a temporary workshop make sure you don't put the jigsaw straight through them.

Once all the pieces are cut out and the edges cleaned up they can be glued together with PVA glue. The whole thing needs holding overnight in sash cramps while it hardens.



These plans suited Mr Coote. They can, however, be easily modified to suit your own requirements.

Alternatively, the unit could be screwed together using long chipboard screws or even the little corner fixings used by kitchen cupboard manufacturers, all of which are available from most hardware stores. Once assembled the desk was given three coats of red enamel paint for a smooth, striking, surface. Finished at long last, my unit has been counted a big success. But, to be honest, despite the new desk I have not managed to work for long periods without pain. This isn't the fault of the design, merely that I cannot type without looking at the keyboard – but I'm working on it!

Steps back in amazement

You can imagine my surprise when I opened 8000 Plus to find that a commercial firm has an almost identical design to mine. Add a couple of ears to the top shelf to prevent the printer falling off and a set of castors and we have a clone.

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CHEAP AND CHEERFUL

Hunting for the right public domain program can be time-consuming. Tim Smith finds out whether compilation discs have the answer.

Public domain, or PD as it is more generally known, is a phrase much bandied about in the computer world. It conjures up visions of hackers hunched over strangely configured terminals waiting to access NASA or MFI...M15 even. The reality, as usual, is quite different and has nothing to do with such murky goings on.

For once, the use of the word 'public' is fully deserved. What actually occurs, in very general terms, is that enthusiasts write programs to which they give up their copyright. These programs can then be freely distributed.

In practice, nothing is for free and you will usually be charged a copying fee – up to three pounds from some libraries. Technically, this covers the cost of time and media since most public domain carries specific injunctions against either selling it or including it in any commercial package. People using these programs are expected to put any improved version they might write back into the public domain for the use of others.

The software itself may be written in any language from good old Basic to the more fashionable C or even Assembler. It might be written by beginners or experts, you won't know until you actually try it. This means that some programs which purport to do similar jobs, for example two text editors, might turn out to reach very different levels of functionality.

Generally, the specialist libraries that hold public domain software will issue catalogues but make no attempt to put their software collections into any kind of order. Programs to do related tasks can be found scattered randomly over a variety of discs and with no indication of how they perform, what they work with or whether they have been superseded by a better version. However, a few groups and some commercial companies have tried to address this problem.

Greatest hits

Basically, what these groups have tried to do is to pick the best of the public domain programs and concentrate on those. These people sift the large libraries for the programs that have the most features, the best documentation, or simply for related programs that will all help toward solving a particular problem.

Where these are substantial enough you simply get the one application, like the public domain spreadsheet we reviewed in this issue. Where a number of smaller utilities are all included on a single disc, they are generally known as 'compilation' discs. Like single records which are heaped together on one long player at Christmas, public domain compilations will tend to comprise the pick of the best.

Although a compilation disc will cost you more than the usual library copying charge (for the extra work involved in sorting them out) this will still be a lot less than if you'd hunted around for all the separate discs needed to build the collection yourself. This will not only save you money but might even open up a few avenues you hadn't considered.

For example, Advantage Software, who maintain one of the biggest public domain catalogues for the PCW, sell a disc which is marketed under the rather ambiguous title of Text Processing Utilities. Although this is not a word processor it does provide some useful word processing tools, such as a word counter. Its primary job, however, is to prettify text and give you weird and wonderful printouts. So, when you pay your five pounds for the disc, not only will you buy the ability to print out sideways, in banner form and in a gothic script, you will also get a utility which will create calendars for you - plus a simple spell checker. On a compilation you may well find a utility or program which will make the PCW achieve feats you had never even considered. Even better, it may lead you into improving them and contributing to the public domain yourself.

Domain chance

There is always a limited danger that you might end up with discs packed with programs you aren't interested in. However, as you will probably have got the few utilities that you required, a database or game for example, the rest can be erased. As you will have

paid under ten pounds, normally five, for a disc (costing £2.99 itself) containing numerous files, this is not too much of a tragedy.

The public domain libraries have been garnered from all over the world. Consequently it is quite possible to find a compilation disc containing a directory utility from Sweden, a financial analysis program from America and a game from Holland. Not only does this illustrate that CP/M is an international language, but also that the PCW is heir to this internationalism.

This is not the case with the complete libraries; these tend to be collections of software from a specific special interest group (SIG) or a particular country. The CP/M User group, for example, keeps material from US groups, Holland, Australia, UK and others. However, they make no attempt to collate this collection, merely maintain it and pass it on.

The Advantage compilations have been collated with the average PCW user in mind. This 'average' person seems to be one who uses his or her PCW as a workhorse but is not overly concerned with the in-depth computing side of the machine. The CP/M User Group, on the other hand, gives access to programs of interest to anyone who has ever been near a PCW and enjoys experimenting. Using either of the groups will provide cheap insights into what is actually obtainable from the PCW.

Public speaking

With organizations such as Advantage or the CP/M User Group, you can be fairly sure that you will get good, cheap utilities and program compilations. In the long run, waiting for these will be your best bet.

Many of the public domain discs will contain source code which you can list in order to see just how they were put together. In a few cases the programmer will include a document which explains his or her approach and the reasons for using certain routines. Browsing over a few of these will give an insight into the minds of the semi-professional programmer and might even convince you that, you too, could get a database or game into the public domain. If you don't mind spending a few pounds and are prepared to experiment a little, then public domain compilations are certainly worth a look and may even lead you into experimenting with some of the more exotic material which can be had.

Here We Also

Advantage Software can be contacted on 02-224-340. The person to contact at the CP/M User Group is: Diane Farland, 72 Mill Lane, Hawley, Dartford, Kent, DA2 7RZ. The CP/M User Group also provide a full list of the public domain sites to members. Another reputable source of collected programs is John Ellis, who maintains the library of the defunct PCW File. Write, ordering, for a catalogue to 100 St Peters Close, Morton-on-Lugg, Hereford, HR4 8DW.

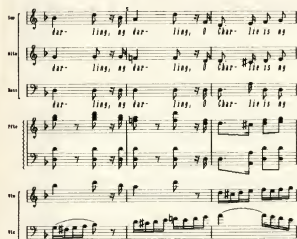
Two Published into One Will Give

Many of the compilations will contain more material than you would have thought possible. This is achieved by a process known as queueing. This process will compress files into a far smaller space using a file compression technique. As this queueing makes the programs unusable and text files unreadable, you will also find a program called UNSQUEEZ which reverses the process. This technique is also widely used when sending information via networks or over communications links. So, even more for your money.

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THE LONG GOODBYE

I sat in my office watching the level of the bourbon slowly sink, like Amstrad profits. Another couple of slugs and I'd start kidding myself I could understand CPM BDOS error messages. Being a private computer consultant can drive you crazy.

The client was a dame. A dame whose picture would melt anyone's video digitizer. There were lines on her face, maybe thirty-two of them, but she'd stayed easy enough on the eye. She'd said her name was Joyce.

"I need you to track down some discs."

"LP, compact, brake or spinal?" I quipped.

"CF2," she snapped.

"I need them bad. My supplier says there's a shortage...."

"Of all the columns in this magazine," I sighed,

"you had to walk into mine."

"So now it was my problem.

Maybe this tied in with my April

investigation. An outfit called

M.D. Office Supplies had put a

flashy ad in

Amstrad PCW

magazine. It

offered discs.

Five and a

quarter inch

discs. Three

and a half inch

discs. No other

size at all.

Dealers...

who can figure

out

em?"

I started out

with my own

dealer contact. He lived in a bad

part of town, where the ads are

small and cheap. Down every dark

alley someone was waiting to

clobber you good with VAT and

carriage, not included in the

advertised price. In that district,

customer support meant that

instead of throwing you out they

carried you out. And dropped you.

"Times are hard all over,"

muttered the dealer, nervously

shifting a wad of greenbacks from

one pocket to another. "Our

wholesaler, he's got a million discs

back-ordered. Nothing I can do to

speed them up, squire."

I got the grimy sheet of paper

from my pocket. "These are the

discount prices you promised you'd

hold level until...."

I'd forgotten his assistant. I

spun around, one hand diving for

the holster, but too late. He smiled

as he slugged me behind the ear

with a fat list of revised prices.

My Visa card went limp like a

Dali watch. On the second blow

the whole world curled up and

turned black as NLQ from a fresh

new ribbon.

The last words I heard were,

"Thirty days minimum delivery

time."

My brain kept throbbing and

reporting "missing address mark in

frontal lobe". My mouth tasted like

the toilet floor at a computer show.

It was no time to be talking to the

client. I was talking to the client.

"How about some results?" she

said with a green light in her eyes.

I explained: "Down these mean

disc manager menus a man must

go who is not himself mean, who is

neither tarnished nor afraid."

"I guess that means no

progress."

"You got it." I patted her on the

monitor, which was

curved in all the

right places.

"Here's looking at

you, kid."

Following a

hunch I checked

out another lead,

another of the

million outlets in

the naked city.

These were big-

time mobsters with

an open plan

dump full of potted

plants. Out of my league. One false

move, and the heavy in the smart

suit and tie would have me up

against the wall. I'd be lucky to get

out without being sold an 80386

IBM system with VGA display and

laser printer.

"I want to know about discs.

CF2 discs."

His laugh would have made a

hyena hide nervously under the

bed. "Get out of here, you small-

time punk."

I got mad. He froze as I drew a

bead on him with my snub-nosed

RS-232 interface. "You've got

contacts," I told him. "Guys who

spend fifty big ones on accounts

programs, and that's just to handle

petty cash. Guys who know the



A page in
the company
of author and
PCW pundit
David Langford

LANGFORD

disc situation."

"So?"

I fired seven data bits over his

shoulder, to show I meant

business.

"You're thinking to yourself,

is his RS-232 set up for seven-bit

or eight-bit transmission? You're

wondering, has he got one bit left?

What you should be asking

yourself is... do I feel lucky?"

His teeth did castanet

impressions. "OK, I'll spill it. It's the

import connection — some big Jap

outfits have pulled out of CF2s.

Only Maxell still make them.

There's a famine, and the

operators with big stocks plan to

clean up."

It fitted together. I dived through

the glass doors just before a

fusillade of hype could shoot fatal

holes in my sales resistance. This

is a lousy stinking business, I

thought as the pavement came up

to hit me.

"I can't touch the Mr Big behind

this," I told the client. "It's the

old story — he's out of reach.

Seems he made a killing

installing cheap drives in a

million machines, and left the

suckers to feed them with

expensive discs. It's easy to

get hooked... hard to kick the

CF2 habit."

"I can pay," she whispered.

"Seems the operation never

went over big, Stateside. Maybe

the Mafia didn't like the

interference, maybe the punters

saw through the scam. Without

that market, the Japs got leery

and dropped out."

She laughed greedily at me.

"So you can't fill my order.

How d'you plan to stop me

blowing the whistle on this

seazy consultancy business

of yours?"

There's no arguing with dames.

"Farewell, my lovely, until the

shortage is over...."

My fist caught her smack on

the power button, and she slept

the big sleep.

*In that district,
customer support
meant that instead
of throwing you out
they carried you out.
And dropped you.*

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LISTINGS

The PCW plots, draws and goes round in circles; share the fun!

PLOT, DRAW AND CIRCLE ROUTINE

by Lawrence Simons

Regular readers of these pages will remember Lawrence Simons' Plot routine published in issue 23 (August 88). Springing from those lines of DATA have come such popular programs as Spirograph and Mandelbrot. Other readers have had hours of enjoyment from a version of Mallard Basic, augmented by Plot, which can create some pretty stunning graphics. Unfortunately for newer readers that issue has now sold out.

However, new converts to Basic on the PCW

should not fear, as the next few pages contain an updated, and far more versatile, version of this old favourite. Instead of just the plot routine, there are now built-in routines for line and circle drawing.

The Plot Routine is the brain of this listing. What it does is toggle on or off the pixels (if you look closely at your screen you can see the

pixels that make up the letters). Draw and Circle enable you to create lines and circles using just two sets of co-ordinates. In order to achieve anything on the screen, you need to supply the routines with variables. All of these variables must be in integer form. A numeric variable is an integer when the % sign is at the end - for example **circump%.** The syntax and variables for each routine are explained below:

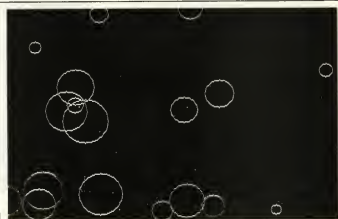
PLOT(X%,Y%,F%)

X% which must be between 0 and 719.

Y% which must be between 0 and 255.

These tell Plot where to begin on the screen. So **X%=0** and **Y%=0** would be at the bottom left of the screen.

The last one is **F%**: you can have one of three settings for this: **1** will Plot a pixel, **0** will Unplot (erase) a pixel. Any other integer will turn a



The circle routine forever blowing bubbles!

```
10 REM MAKE BUBBLES
20 GOSUB 60000
30 B$=CHR$(27):C1$=B$+"H"+B$+"E"
40 PRINT C1$;B$+"f"
50 A%=2
60 FOR i=5 TO 30
70 R%=1:X%=RND*720:Y%=RND*255+1:F%=A%
80 CALL CIRCLE(X%,Y%,R%,F%)
90 IF i>100 AND i<110 THEN A%=0 ELSE A%=2
100 NEXT i
110 PRINT B$+"e"
120 END
```

095C
05EE
0941
0762
0223
0688
0F78
0B2F
103C
0464
062D
0361

Note the GOSUB 60000 in line 20. The rest of the section actually makes the bubbles. Lines 70 and 80 set up the integer variables and then call the Circle routine.

```
60000 REM PLOT, DRAW & CIRCLE ROUTINES
60010 IF HIMEM<>62981! THEN ERROR 7
60020 MEMORY &HF2FF:E=0:a=HIMEM+1:RESTORE 60100
60030 PLOT=a:DRAW=a+3:CIRCLE=a+6
60040 RET=a+9:X0=a+10:Y0=a+12
60050 FOR i=0 TO 41:c=0:FOR j=1 TO 16
60051 READ x$:x=VAL("&H"+x$):c=c+x:POKE a,x:a=a+1:NEXT j
60070 READ x$
60080 IF c<>VAL("&H"+x$) THEN E=E+1:PRINT "error in line";10*(i+6007)
60090 NEXT i:IF E=0 THEN RETURN ELSE PRINT E;"error(s)":ERROR 17
```

1270
0E2F
15E4
0EB0
0A89
0E31
1781
0494
1DF5
1FA5

The beginning of the Circle Routine itself. Line 60010 ensures that the routine is loaded directly beneath the operating system. You may like to delete this line in order to load the routine elsewhere.

LISTINGS PLUS

```

60100 DATA C3,30,F3,C3,B3,F3,C3,81,F4,FF,FF,FF,FF,FF,D9,C1,D1C 16D2
60110 DATA 21,00,00,39,31,00,F6,E5,C5,21,09,F3,D9,4E,23,46,5D8 1293
60120 DATA 78,B1,28,09,0B,78,B1,3E,01,28,02,3E,02,3C,08,C9,444 12E1
60130 DATA E5,DD,E1,D5,FD,E1,60,69,CD,0E,F3,CD,41,F3,E1,F9,BC8 15E8
60140 DATA C9,D9,36,01,D9,DD,4E,00,DD,46,01,FD,5E,00,FD,56,7AF 1515
60150 DATA 01,ED,43,0A,F3,ED,53,0C,F3,21,CF,02,A7,ED,42,D8,80D 157B
60160 DATA 7A,A7,37,C0,D9,36,00,D9,93,3D,5F,EB,F3,3E,81,D3,89F 155D
60170 DATA F1,3C,D3,F2,29,11,00,B6,19,5E,23,56,EB,7D,E6,07,727 1387
60180 DATA 5F,29,7D,E6,F0,B3,6F,59,79,86,F8,4F,09,7E,E6,07,86D 14E6
60190 DATA 3C,47,3E,01,0F,10,FD,08,47,08,10,05,2F,A6,77,18,3AE 12DB
60200 DATA 08,10,04,B6,77,18,02,AE,77,3E,85,D3,F1,3C,D3,F2,710 13B4
60210 DATA FB,A7,C9,E5,DD,E1,D5,FD,E1,60,69,CD,0E,F3,CD,C6,BB8 1710

```

The very guts of the routine. The data which must be typed in commas and all. Try setting the cursor keys to numerics by pressing ALT and RELAY.

```

60220 DATA F3,D9,71,E1,F9,C9,DD,6E,00,DD,66,01,ED,4B,0A,F3,9A4 1594
60230 DATA A7,ED,42,EB,FD,6E,00,FD,66,01,ED,4B,0C,F3,A7,ED,95B 169A
60240 DATA 42,D9,0E,02,D9,7A,B3,B4,B5,C8,0E,01,CB,7A,28,09,6E7 1499
60250 DATA 0E,FF,7A,2F,57,7B,2F,5F,13,06,01,CB,7C,28,09,06,4AE 14B3
60260 DATA FF,7C,2F,67,7D,2F,6F,23,ED,43,92,F5,A7,ED,52,38,824 1471
60270 DATA 0C,19,ED,53,96,F5,22,98,F5,0E,00,18,0A,19,22,96,5A0 1392
60280 DATA F5,ED,53,98,F5,09,00,ED,43,94,F5,2A,98,F5,44,4D,8C9 1476
60290 DATA CB,3C,CB,1D,D9,0E,00,D9,C5,ED,4B,96,F5,09,ED,4B,878 160B
60300 DATA 98,F5,A7,ED,42,38,06,ED,5B,92,F5,18,05,09,ED,5B,7DE 1569
60310 DATA 94,F5,E5,2A,0A,F3,4B,7B,17,9F,47,09,DD,75,00,DD,790 14BE

```

The same again and more. These are in fact the x's which were read in lines 60051 and 60070.

```

60320 DATA 74,01,2A,0C,F3,4A,7A,17,9F,47,09,FD,75,00,FD,74,64B 13EB
60330 DATA 01,CD,41,F3,D9,7E,B1,4F,D9,E1,C1,0B,78,B1,20,B8,8E0 14C4
60340 DATA C9,E5,DD,E1,D5,FD,E1,60,69,5E,23,56,23,EB,4E,23,93E 14D4
60350 DATA 46,ED,43,9E,F5,EB,5E,23,56,23,EB,CD,0E,F3,D9,36,8B6 157E
60360 DATA 04,D9,2A,9E,F5,7C,A7,C0,D9,34,D9,B5,C8,CD,72,F5,A14 1597
60370 DATA 22,A0,F5,2A,9E,F5,CD,81,F5,FD,6E,00,FD,66,01,22,8A8 154B
60380 DATA 9C,F5,22,0C,F3,DD,6E,00,DD,66,01,22,9A,F5,09,22,71D 1476
60390 DATA 0A,F3,D9,06,00,1E,01,D9,CD,FA,F4,D9,1C,7B,D9,FE,8D6 1611
60400 DATA 05,38,F5,2A,9A,F5,DD,75,00,DD,74,01,2A,9C,F5,FD,847 1443
60410 DATA 75,00,FD,74,01,D9,70,E1,F9,C9,3A,9E,F5,47,C5,05,8B1 146A
60420 DATA D9,7B,D9,0F,38,05,3A,9E,F5,90,47,68,26,00,E5,CD,75D 14AE
60430 DATA 72,F5,EB,2A,A0,F5,A7,ED,52,CD,5D,F5,EB,2A,9C,F5,ABC 16FF

```

Even more of the same again. Just keep typing; the results will be well worth the effort.

```

60440 DATA D9,7B,D9,FE,03,30,03,19,18,03,A7,ED,52,FD,75,00,6ED 1428
60450 DATA FD,74,01,E1,CD,81,F5,2A,9A,F5,D9,7B,D9,FE,01,28,9A3 14B8
60460 DATA 09,FE,04,28,05,A7,ED,42,18,01,09,DD,75,00,DD,74,5D3 1395
60470 DATA 01,CD,C6,F3,D9,79,80,47,D9,C1,10,A2,C9,7C,B5,C8,9DE 1524
60480 DATA EB,21,00,00,23,B5,CD,72,F5,A7,ED,52,E1,38,F5,C8,904 14A5
60490 DATA 2B,C9,65,2E,00,4C,45,3E,08,29,30,01,09,3D,20,F9,417 1385
60500 DATA C9,54,5D,29,29,29,19,CB,3C,CB,1D,CB,3C,CB,1D,44,630 146F
60510 DATA 4D,C9,FF,FF,FF,FF,FF,FF,FF,FF,FF,FF,FF,FF,FF,FF,FF 1A29

```

Last but not least... even more data.

green pixel black and vice versa (toggle).

DRAW (X%,Y%,F%)

Draw will create a straight line from the position of the last pixel plotted or drawn to the new coordinates. So in this case X% and Y% tell it where to finish the line. Their limits are the same as in Plot.

F% still has the same three settings as above. Draw, like the two other routines, will allow you to pass lines through anything else on screen and will also 'undraw' itself. For example, you could create a pointer into some text and then undraw it to give emphasis in a presentation.

CIRCLE(X%,Y%,R%,F%)

As you can see this has four variables, the R% being the odd one out. This stands for Radius and may be set at anything from 1 to 255. It cannot be zero for obvious reasons, you'd end up with an abstract circle and nothing on the screen to show off with!

Taken in combination, these routines will allow you to create some powerful visuals with which to impress and confound all those who doubt the PCW...and there are still a few lost souls!

In order to illustrate the Circle function, we have included lines 10 to 120 which create random 'bubbles' on the screen. When using

any of the routines in your own programs you must first execute a GOSUB or GOTO to get to line 60000. This will invoke the routines and install them in high memory. In our Bubble example the code is installed by the CALL 60000; once all the numbers have been read and poked into memory the program returns from the installation subroutine and the bubbles are generated in lines 30 to 110. Line 120 ends the routine.

To use these new routines in your own programs you should delete lines 10-120 and save the remainder as DRAW.BAS or something similar. But don't forget any program you write using these routines must include the CALL 60000 as the first thing it does.

After all that, have fun and send us some examples!

How to Type in a Listing.

First you need to get Mallard Basic up and running; to do this insert a copy of your CP/M disc. At the > prompt type BASIC and press [RETURN].

BASIC is loaded when the > disappears and is replaced by 'ok'. You're now ready to type in the listings. Do this as they appear on the page, line by line. Don't type the four figure hex numbers at the end of every line as these relate to the Checksum program published in the November 1988 issue.

Typing errors are quite common so check each line carefully. If you find a mistake before pressing [RETURN], simply cursor back to it and make the required correction using the [DEL] keys. If you realize that you've made a mistake after pressing [RETURN] you will need to type EDIT and the number of the offending line. You can then edit any errors in the same way as above. Once you're sure that all is correct press [RETURN]. The corrected line will be

accepted into the program.

When you've typed in all the lines and made any corrections, type LIST to print the entire program on the screen. If you want a copy sent to the printer you will need to type LIST.

After making another line by line check you must save the program. Do this by typing SAVE" followed by a filename such as DRAW. You don't need to bother with the .BAS as Basic assumes this. Make sure the filename is no longer than eight letters.

Finally type RUN and wait. The chances are that the dreaded Syntax error in line 50-and-50 or some other message will appear. The line number might not be the exact place in which the error occurred but it will narrow down the search. Edit any errors in the manner we have noted and try again. If all else fails go to the manual.

SHARECALC

By Graeme D Jarvie

Last week, we brought you a simple program to check APR% and possible debts.....this week it's (hopefully) profit time. Graeme Jarvie's Sharecalc helps you to monitor a mini portfolio of shares. This would be useful to track the performance of shares you're interested in as well as those you already own.

Like LoanCalc, this new program is clearly laid out and makes use of Mallard's Jetsam file-handling functions. The program gives you a menu of four possible options (sic):
(A)dd asks for the name of the share, the

```

5 REM Shares.Bas by Graeme D Jarvie (1989)
10 bell$=CHR$(7):esc$=CHR$(27):BUFFERS 10:cls$=esc$+"E"+esc$+"H"
20 DEF FN money$(x)="#+DEC$(x/100,"###.###.###)"
30 IF FIND$( "shares.dat">"" THEN 50
40 CREATE 1,"shares.dat","shares.ind",2,10:CLOSE 1
50 OPEN "K",1,"shares.dat","shares.ind",2
60 FIELD 1,4 AS fiNoBought$,4 AS fiBoughtAt$
70 PRINT cls$:"ShareCalc":PRINT:PRINT "A)dd,D)elete,C)alculate,Q)uit"
80 a$=INPUT$(1):a=INSTR("adcq",a$):IF a=0 THEN 80
90 ON a GOTO 100,150,190,330

```

This section Creates and then Opens the two jetsam files needed for the portfolio.

```

100 PRINT cls$:"ShareCalc - Enter New Share Details."
110 PRINT: INPUT "Share Name ";name$:IF name$="" THEN 70
120 PRINT: INPUT "Number Bought ";nbt:LSET fiNoBought$=MKS$(nbt)
130 PRINT: INPUT "Bought At ";btat:LSET fiBoughtAt$=MKS$(btat)
140 result=ADDREC (1,2,0,name$):PUT 1:GOTO 70
150 PRINT cls$:"ShareCalc - Delete Share Details."
160 PRINT: INPUT "Share Name ";name$:IF name$="" THEN 70

```

This is where you get to input the portfolio itself. Note the MKS\$ in lines 120 and 130. These convert numerics to strings for Jetsam to store.

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```

170 IF SEEKKEY(1,2,0,name$)<>0 THEN PRINT bell$:GOTO 70
180 result=DELKEY (1,2):GOTO 70
190 PRINT cls$;"ShareCalc - Portfolio Calculation.":PRINT
200 totvalue=0:totprofit=0:result=SEEKRANK (1,2,0)
210 LPRINT "Name";TAB(20);"Number";TAB(30);"Bought";TAB(40);
220 LPRINT "Now";TAB(50);"Value";TAB(65);"Profit":LPRINT

```

Jetsam goes looking for the shares you input earlier in order to update or delete them. Output to the printer also occurs here.

```

230 WHILE (result=0) OR (result=101)
240 GET 1:nobt=CVS(fiNoBought$):btat=CVS(fiBoughtAt$)
250 PRINT FETCHKEY$(1);TAB (30);:INPUT "Price Now ";prnw
260 value=prnw*nobt:profit=(prnw-btat)*nobt
270 totvalue=totvalue+value:totprofit=totprofit+profit
280 LPRINT FETCHKEY$(1);TAB (20);nobt;TAB(30);btat;TAB(40);
290 LPRINT prnw;TAB (50);FN money$(value);TAB(65);FN money$(profit)
300 result=SEEKNEXT (1,2)
310 WEND:LPRINT:LPRINT "Totals";TAB(50);FN money$(totvalue);
320 LPRINT TAB (65);FN money$(totprofit);CHR$(12):GOTO 70
330 PRINT cls$;"Thank you for using ShareCalc":CLOSE 1:STOP

```

The calculation of profit and loss. Jetsam does its stuff in providing the program with variables.

ShareCalc - Portfolio Calculation.

British Rice	Price Now	? 222
Dixie Boys Big Band Ltd	Price Now	? 12
Drop-It'n'-See Repair Co:	Price Now	? 333
Martian Exploration(Ord 50p)	Price Now	? 2122
Minorgo	Price Now	? 54
Scottish Grouse Inc	Price Now	? 44
United Frog Farms	Price Now	? 33
United Tribbles	Price Now	? 33

Sharecalc prepares to give the good news.

number of them you bought and at what price (in pennies only).

D(Delete) allows you to get shot of any shares which are looking unhealthy.

(C)alculate asks for the present price of the shares in your portfolio, the price at which you bought them and gives you a printout of the good, or bad, news.

(Q)uit closes the files opened in Line 1040 and returns you to Basic.

As it stands, Sharecalc is a useful program and a good example of an application in Mallard Basic using Jetsam. However, you might like to add a few bits of your own. You could get a print to screen or even create a table showing the various prices over a set period. And remember ... the value of shares can go down as well as up.

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Battleships Correction (whoops! mode)

Last month's Battleships program was savaged by Gremlins (who normally stick with RAF). The following corrections apply to lines 620 and 630:

```

620 PRINT FN c$(26:gx:21-
2*y);CHR$(154)+es$+CHR$(12);FN
c$(26+gx+4*x:21);:GOTO 550
630 as$="":IF (x=(9-s(p,e)) AND (=1) OR (y=(9-
s(p,e)) AND (=2) THEN as$="error":RETURN

```

Sorry about that.

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Obviously I am missing something. I must be, since the alternative is that LocoMotive is making an important omission in what is otherwise an excellent package; I find that hard to believe.

Colin Reynolds, West Sussex

8000 PLUS LocoFile datafiles aren't in a form suitable for merging. You need to convert them to ASCII files as you summarised. The easiest way to do this is with LocoMail. Simply set up a loop that writes each card to a page, edit in a record pattern at the beginning and save the resulting file to disc. This can now be merged with another LocoFile datafile in exactly the same way as I would be merging into a new LocoFile datafile. There is no way to merge two LocoFile databases directly.

The word

Q My recollection is that in one back issue of 8000 Plus you mentioned that you set up much of your copy on an Amstrad PCW, which you then transferred to an Apple. My wonderment is whether or not it is possible to transfer Mac software onto the Amstrad, whether that may be 3" on the PCW, or 31/4" on the PPC, or 5 1/4" on the PC.

Unfortunately LocoScript do not have what I want, and I have not been able to come up with anything other than the Mac. I would be grateful for your help or advice. The subject of the software is Hebrew (Biblical) language, including Old Testament text.

Martin Reid
Falkirk

8000 PLUS There is no way that Mac software could ever be made to run on the PCW. The Macs use the more powerful Motorola 68000 and 68020 processors and Mac programs tend to need a great deal of memory.

There may be a way around your problem. One of the advantages of the 24 pin printers is that most of them allow you to download complete character sets. There is nothing to stop you designing and downloading a complete Hebrew character set for one of these. You'd need to label your keytops but there is no reason in principle why it shouldn't work.

Dbasic problem

Q I am using the Mini Office database to store some records. I would like to make the system as simple as possible to operate, and to this end wanted to put CP/M and OFFICE.COM on an A drive disc, together with the database program from Mini Office. I can do the first part of this, but when I try

```

>dir a:
a: OFFICE.COM
a: SYSTEM FILES\ EXIST
>set a:=* [dir]

a:WORD.COM set to directory (DIR), Read Only (RO)
a:WORDA.COM set to directory (DIR), Read Only (RO)
a:CHRMATS.COM set to directory (DIR), Read Only (RO)
a:DBASE.COM set to directory (DIR), Read Only (RO)
a:OFFICE.COM set to directory (DIR), Read Only (RO)

>dir a:
a:WORD.COM : WORDA.COM : CHRMATS.COM : DBASE.COM : OFFICE.COM

```

Using SET.COM to get a look at the files on the Mini Office discs.

to copy the database program the computer fails to recognise the existence of the database file. Is there any way around this problem? I would really like to be able to load up the single disc, type DBASE and be into the database option.

Mrs C M Corns

Loughton

Essex

8000 PLUS What the authors of Mini Office have done is to set all the files that do anything useful to **System** status, which means that they don't show up on directory listings and such like. The easy way to solve the problem is to set them all to **Dir** status using the **SET** utility.

Working on the copies of your Mini Office master discs put **SET.COM** on drive M and the disc in drive A. Now type: **SET A: [DIR]**

All the files on the disc will now be listed out as having been set to **Dir** status. You may be surprised at how many there are. You need to copy the **DBASE.COM** program and the **CHRMATS.COM** program to your new disc along with the **EMS** operating file. If you now type **DBASE**, the database will load and work perfectly well; however, when you try to quit it will demand the disc with **OFFICE.COM** on it.

The solution is to copy something useful onto the disc and rename it **OFFICE.COM**. A good choice is **DIR.COM**, which will at least give you something interesting to look at before immediately going away again.

Going dotty

Q I have an 8512 Amstrad PCW. From this letter you will observe that there are small dots under each word. This problem has occurred before, but corrected itself after a few days. Would it be possible for you to advise me of what is causing the problem?

E R Best

London

8000 PLUS It looks like a cable problem to me. Since it's still under guarantee, the quick solution is to take it back to wherever you got it and get them to do a straight swap - your printer for one they have in stock. They can then return the whole machine to their supplier and you don't have to wait months for a repair. Check

that I'm right using someone else's printer before doing this if possible.

Copy cat



Anyone who is thinking of trying to copy files across from a PCW onto a PC using the commands as shown in the March 1987 edition of 8000 Plus is in for a very trying time indeed. Put as simply as possible it won't work. The reason is that the instructions given are wrong! I had spent hours (well 1/2 hour actually), typing in the command and all I got for my efforts was the CP/M messages **ILLEGAL COMMAND**, **TAIL**, **INVALID SEPARATOR** etc. So I contacted the good people at 8000 Plus, spoke to a nice chap and obtained the correct instructions. When copying from PCW to PC, the commands to use are as follows:

PIP AUX:=FILENAME [E] (The [E] will echo the file on screen).
PIP AUX:=EOF: This transmits an End Of File marker, (which CP/M doesn't do) so that the PC knows that there is no more information winging its way down the wire.
K W Gotheridge
Derby

Colourful life



I have recently purchased a Star LC10 colour printer. Is there any way I can place the codes for colour change in listings like Spirograph, and the Mandelbrot - in fact any other graphics listings? Also, is there any way that I can change the colour on the printer whilst printing clip art and the such like?

I have bought Mallard Basic but would like your advice on a further book on programming language.

I tend to use various DTP packages such as The Desktop Publisher itself, News Desk International, and Stop Press which I find is the best of the three.

However I am having difficulty getting the border loaded so that I can do some posters.

Thomas McMillan
Blair Atholl
Perthshire

8000 PLUS I don't have the manual for the

LC-10 colour printer here but changing the print colour is simple enough in principle. Among the printer control codes listed you will find the ones to shift the ribbon. All you need to do is send these to the printer with an **LPRINT** command like so:

10 LPRINT CHR\$(27)+"X" where X is the relevant code. Change it back again in the same way

Printer problems



I have used my PCW 8512 daily for two and a half years, and I was getting fed up with the quality and speed of the printer. I saw Locomotive's offer and sent off for the NEC P6, the interface and the 24 pin printer driver disc. Buying them all from Locomotive, I thought I would be safe from interface problems. Little did I know.

The £681.30 package refused to work. NO PRINTER said my screen. I sent my start-of-day disc to Locomotive and they returned it as 'correct - works for us'. I sent the interface to Locomotive and they returned it as 'correct - works for us'. They said it was my monitor which was faulty. My friendly Amstrad dealer said 'It's over two years old'. A maintenance company offered to solve my problem; £45 for the visit, and the cost of a circuit board which they thought would be needed would be £75. To all these people I raised the possibility of muck on the terminals but none of them thought that that was likely.

Then I spoke to 8000 Plus. You suggested I clean the terminals with an old fashioned hard ink rubber. I did. It worked. The interface worked. The printer worked.

So to other readers like me, with old machines and ideas to print fast the advice is; buy your interface and a rubber first and establish that the existing hardware is fit for the purpose before you commit yourself to a printer. And thank you, 8000 Plus.

Mavis Doyle OBE
Gateshead
Tyne & Wear

8000 PLUS The board edge connectors on the PCW are tin-plated rather than gold-plated (it costs less) and they do form an insulating layer of tin oxide after a while. The hard rubber is enough to remove it and re-establish the connection.

Style files



Using LocoFile I can now carry out a straightforward recall from a card under specific heads: author, theme, sub-theme, reference, and so on. But I have yet to be able to recall using sub-keys and alternative sub and main items.

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8000 PLUS



TIPOFFS

I have written to LocoScript about this but said to say I am still lost. I fear that I am missing the distinction between 'index name' and the word used for the 'main key'. Perhaps other readers are having similar difficulties or am I an isolated numbskull?


John Linsie
Coventry
Warks

8000 PLUS. Indices are easy enough really. Let's say you've set up a mailing list of friends and included their children as separate items. If the Smith family have five children and each of them is made a sub-key then when you page through the records you will be shown the record for Smith five times, once for each of the children. If a family has two children you get shown it twice. If there are no children you still get to see it once anyway.

Alternative main keys are different. Imagine you are cataloguing your Country and Western albums. You set up twenty items labelled Song1, Song2, Song3, etc. Each album has a record card and you put all the songs on each album onto the list, one per item; you don't worry about the order at all or about empty items; in fact they don't even have to follow one on another - you could leave items Song4 and Song5 empty on a card if you hated them.

When you've finished you make all the items from Song1 through to Song20 Alternative Main Keys. Let's say that Rawhide has appeared on six of your albums but that it's a different track on each one. On the first record it might be Song3, on the next Song14 but since they are Alternative Main Keys both will be found when you look for Rawhide and page through the records containing it. Clever, huh?

Ascii questions

 Can you tell me how to make decent ASCII files (ie, simple text files) without those wretched hard returns) in Protex.

their erstwhile employers. (I'm going to set to the point eventually.) Another piece of accepted lore, at least among the young, is that anyone over forty is incapable of either absorbing change or coping with computer technology. Why is it then, I ask myself (and anyone else who cares to listen), that some of the cleverest, most talented and comprehensible tipoffs come from retired readers? Why are the best books on computers written by men and women often well past their prime?

The very famous Ian Sinclair is no spring chicken. (I asked and he's 57, which means he published an average of just under two

```
PROTEXT v2.21 (c) Arnor 1986      Type HELP for Command info      Printer: PC49512
FIND string: !
REPLACE with: *
Options (A,B,C,G,M,n)? ag
Replaced 6
a>REPLACE
FIND string: !
REPLACE with: *
Options (A,B,C,G,M,n)? ag
Replaced 46
a>REPLACE
FIND string: *
Options (A,B,C,G,M,n)? ag
Replaced 6
a>SAVE filename: m:filename.asc
a>
```

In the first exchange, we're looking for a tab and 8 spaces; the tab is t, and the spaces are (8 spaces) plus a return.

```
PROTEXT Document m:filename.asc 3K      Justify Off      Word-Wrap      ALT-H for Help
Page 1 Line 1 Col 1      No markers set      Insert
measure of wisdom. But why should I be worrying my little holding head with these apparent
Well, what's prompted it is the number of letters I keep getting from those lucky
Another piece of accepted lore, at least among the young, is that anyone over fort
the very famous Ian Sinclair is no spring chicken. (I asked and he's 57, which mean
The fact is that the majority of young computer magazine readers are only over 40
I read a joke article recently that involved a man doing his accounts on an Amstra
So, are all the hundreds of thousands of people who won't see their twenties again
```

```
PROTEXT v2.21 (c) Arnor 1986      Type HELP for Command info      Printer: PC49512
```

If you load the final version of the file you will see that each paragraph is now laid out as a single line.

On the issue of LocoScript versus Protex: why does LocoScript make such extensive use of the disc drive when moving around large files? It appears to be writing and reading sections to and from disc, yet if you 'Abandon Edit' none of this will be left. It seems to make more sense to do as Protex does and simply hold the file in memory till you've finished playing with it, then save it.

Paul Fox
Leeds

8000 PLUS. The traditional method of making an Ascii file is to set the ruler line to a length greater than the number of characters in your longest paragraph, 2000 ought to do it, reformat and save the file, voila.

More elegant is to use the find and replace facility. Print to a file as normal (on drive M, for speed). Now load the file you've just printed. Use EXCHANGE to alter the CARRIAGE RETURN, and the spaces (which have replaced the TAB in the file once it was printed to the disc file) at the end of the paragraph to something innocuous like an asterisk.

Next change all the carriage returns printed at the end of every line in the file to spaces. Finally use EXCHANGE again to turn the asterisk back into a CARRIAGE RETURN-TAB combination. Now save the file again and you have the original file with

no carriage returns except at the end of paragraphs. Make sure that you don't reformat the file at any stage.

A good type



I have an undoubtedly mind-wrenching task for you: I am the proud owner of an unexpanded PCWR8256 and also own a Brother EP-44 'Electronic Typewriter/Printer' which is quite compact and ideal for taking notes in lectures. I would like to be able to type a document into the memory of my EP-44 in raw format and to later export it to the PCW via CPM and PIP (as demonstrated in your articles on the Z88) where I could then format and spellcheck it.

There is an RS232 interface on the Brother, and a way of controlling baud rates but that's as far as I get since the Brother manual is really quite unintelligible and seemingly the relevant section is non-existent in the Amstrad's. Is it possible to do this?
Adam Holdsworth
Middleton-on-Sew
West Sussex

8000 PLUS. Yes, you need an RS232 interface for your Z8256. Next consult the

Brother manual for the printout details to the RS232 (those for the Amstrad will come with the interface). Unless you're keen get a computer retailer to make a cable up for you.

Use SETSIO to set up the serial port parameters on the PCW. The easy way is to set it to the Brother default settings, which should be in the manual. Alternatively, set the Brother to the PCW defaults (which will be displayed if you type SETSIO without giving it any parameters). Serial links are notoriously awkward to get working but once you suss it, it should work every time.

Joined up writing



Buying cables - or getting them made up - can be time consuming and expensive. Cheaper, and more interesting, is to make them up yourself. The serial cable for the Z88 is a good case. This can be made up very easily by anyone capable of turning on a soldering iron.

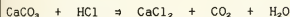
All you need is a 9 pin male D type connector (with the pins sticking out), a 25 pin female D type connector (full of holes) and a length of cable with seven or more cores.

It's worth making up your own cable since that is the only expense

PCW Z88

3	.....	2
2	.....	3
5	.....	4
4	.....	5
7	.....	7
20	.....	8
6/8	.....	9

The details of the connections needed for the cable to connect the PCW to the Z88. Note that 6 and 8 are connected



(This equation does balance, I am taking GCSE chemistry this summer!).

It is also possible to print ions such as: SO_4^{2-}

You, too, can produce convincing looking chemical equations using LocoScript

involved in file transfers between the Z88 and the PCW. All the software required is supplied with both machines.

Out of interest, the same cable works with IBM PCs and their clones as well. Now you can use your Z88 as a file transfer device in its own right without getting involved in any other software or cable problems.

Donald Sawyer
London

Chemically correct



LocoScript 2 is more than capable of producing good-looking chemical equations. All that's needed is to make use of the subscript and superscript commands and reduce the pitch.

It's worth the whole process easier if you're putting the necessary commands into phrases. The first two you need are:

[+][SubScript][+][Pitch17 and
[-][SubScript][-][Pitch17.

These can be assigned to a phrase with the sequence [COPY][EOL][COPY] and the letter of your choice. When actually using these to write equations it's best to keep the Code displays turned off.

The only other thing you need

to know is how to get the 'converted' to arrow. This is obtained via Symbol Superscript [Alt]7 and [SHIFT]Y. This, too, could be stored in a phrase to save time (you could even make yourself up a Phrases file just for Chemistry homework).

You can take this further and print ions using a combination of subscript, superscript and line space = 0.

A d Greenland
Rickmansworth
Herts

Formwork



If you're a Protext user in the habit of keeping different groups - or

```
PROTEXT Document protext.cat
Page 1 Line 1 Col 1
^ut "insert disc"
sv gr=1
ex
sv gr=gr+1
sv sv=gr+1
ex group agr
sv caloc=+1/4
if caloc=11="00"
^t Press any key to continue"
ei
un gr=15
```

This is the program that actually allows Protext to print out all the files in all the groups on your disc.

perhaps simply want to check an old LocoScript disc - this little program will CAT all the groups of a disc automatically.

To use it simply type it in and save it under some suitable name, DISCAT for example. When you want to use it just print the file from the command line. You will be asked to insert a disc but if the right one is there just press [RETURN]. All the different groups will appear on the screen with a pause after every fourth one in case you've seen enough; if you have, simply press [STOP].

Charles Maude
Sheffield

Stringy stuff



Can you advise me where I might find a full list of the CHR\$(commands such as:

CHR\$(27)+ "E"+CHR\$(27)+ "H"? I have been unable to find a list anywhere.

William Inglis
Edinburgh

8000 PLUS I think you may be a little confused as to how these things work, so I'll go through it in some detail. To make things happen on the screen characters have to be sent to it. Characters can have one byte values (between zero

and 255). All the characters between 32 decimal and 255 decimal will normally produce a visible character on the PCW screen (32 is actually the space so it isn't very visible) while those below 32 are referred to as control characters and have a different use.

The characters 9 (tab), 13 (carriage return), and 10 (line feed) are used all the time. The [TAB] key puts a 9 into a document while the [RETURN] key puts both 13 and 10 into one when pressed.

One very special character has the value 27, and is known as the Escape character. When one of these is sent to the screen it 'knows' that the next characters received must be treated as instructions to do something rather than as characters to be displayed. The fact that there are several ways to send characters to the screen can cause some confusion.

In basic a single byte can be sent using the CHR\$(command. You could write: 10 PRINT "A"; REM string variable 20 PRINT CHR\$(65); REM decimal value of A 30 PRINT CHR\$(84); REM hex value of A 40 PRINT CHR\$(101); REM octal value of A all of which would happily print a capital A to the screen. The CHR\$(command can also be used to print control characters to the screen. A complete list of the control characters can be found in the CPM manual that comes with the PCW in the section headed Terminal Characteristics.

You will find the strings that have to be sent listed as: ESC n where ESC is decimal 27 and n is some other number or letter. The reason why it says ESC is that every control character between zero and 31 has a name, and 27 decimal is ESC (you will find others like SO and SI in the printer control section - these are 14 and 15 decimal).

As you can now see, sending CHR\$(27)+ "E"+CHR\$(27)+ "H" is in fact just a convenient way of sending the bytes 27,69,27,72 to the screen.

LocoFile?



It's handy to keep letters sent to the same person or company all together.

Of course there are a few problems. The first is that there can be less directory entries available on a disc than you have short letters (256 on a B disc but only 64 on an A disc). The second problem is that the disc management screen can quickly get very cluttered making it difficult to see where a particular letter is.

One way to make things much simpler is to put all the letters to a particular person or company into a single file. Now, whenever you want to see your correspondence relating to that person or company you will find it all in the same place.

Each letter should end with a forced page break; this allows you to use the Print Page option to print just the letter you're interested in.

Ian Lee
Kenton
Middx

PROTEXT	Document	protext.cat	1K	Justify Off	Word-Wrap	ALT-H for
Page 1	Line 1	Col 1		No markers set		ins
Drive A: group 1	group 1					
group 1.GRP	0K	LETTER	.2	2K	MISTAKE	.EG 2K
ADDRESS.LST	2K	LETTER1	.A88	3K	PCMINFO	.1 1K
ADDRESS.LST	2K	LSINFO	.4	4K	PCMINFO1	.2 1K
DISCINFO	2K	MAIL	.1	1K	PCMINFO2	.1 1K
INSURITE	.EG	MAIL1	.1	1K	PCMINFO3	.1 1K
LETTER	.1	MASTER	.EG	2K	POEM	.EG 3K
12K free						
Drive A: group 2	LETTERS					
COVER	3K	EX	.1	3K	PITCHES	.2 2K
DOCUMENT.000	2K	JACKDAMS	.2	2K	PITCHES	.ETC 2K
DOCUMENT.001	3K	LETTERS	.GRP	0K	TEMPLATE	.1 1K
12K free						
Drive A: group 3	MANUSCRP					
DOCUMENT.000	2K	MANUSCRP.GRP	0K	TEMPLATE	2K	USERSPEL.DCT 1K
12K free						
Press any key to continue						

When you run the program (PRINTF) this is what happens.

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ZBASIC - interactive compiler	@ £69.95	£49.00	<input type="checkbox"/>
FTL Modula-2 compiler/editor	@ £54.95	£39.00	<input type="checkbox"/>
FTL Editor Toolkit	@ £30.95	£19.00	<input type="checkbox"/>
FTL Advanced Prog Toolkit	@ £30.95	£19.00	<input type="checkbox"/>
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The Good Software File

Up Date...

These pages provide a comprehensive guide to the Amstrad PCW software. Published in three monthly parts, this time it's the turn of Databases, Education, Communications and Programming packages to face the ultimate test. We've set out to cover every important piece of software we could lay our hands on, and to give you enough information to decide whether they are suitable for your needs.

The software listed here represents what we consider to be the best of the many programs available. As well as a brief summary of what they do, the main Plus and Minus points for each program are listed - Pluses have a ▲ by them, and Minuses a ▼. Those we think are particularly noteworthy have a flash on them.

To the best of our knowledge, all the programs here should run on both 8000 series machines and the 9512.

Databases

There are broadly speaking two different types of database, and which suits you best depends, of course, on what you want it for. Firstly there's the simple card index substitute. For many home users, this will be the kind of thing you want - all it does is store your address book or stock items so that you can easily look them up.

A more sophisticated option is the programmable database. With these, in addition to allowing simple card index retrieval there is a command language which allows you to analyse the data on the cards. For example, you could automatically add up the money owed to you by all your customers from Yorkshire. To make best use of this kind of facility, you will need to be able to understand a little programming, although it's not too hard really.

A bit of jargon now. A database is said to consist of records - this is just like a card in a conventional card file, with all someone's details on it. Each record is composed of fields - a field is a single entry on a card, like someone's name, or age, or postcode.

The thing that makes a database special is an index. You might be able to hold your address book as a simple list in a word processor document, but if it gets large then this becomes unwieldy. An index means that the database has worked out which order records should be in, so it can go straight to the one you want without looking at lots of others first.

The field that you use as your index (eg someone's surname) is said to be a key field, and can be looked up very fast compared to "non-key" fields. A good database will allow multiple keys, meaning that it can look up data just as fast for a variety of types of information.

MASTERFILE 8000

£49.95 - Campbell Systems - 0378 777623

A specially written PCW version of the successful database sold on other Amstrad computers. It is fully menu controlled, and makes good use of the PCW's special screen and keys. It

can deal with up to 8 separate data files at once, so can cope with relational databases. Screen (but not printed output) can be elaborately laid out with boxes, lines etc.

PLUSSES - MINUSES

- ▲ Works fast
- ▲ Wide range of Layout options
- ▲ Handles 'relational' files
- ▲ Plenty of good example files
- ▲ Can do arithmetic calculations within its records
- ▼ Capacity limited by size of M drive - best on an 8512
- ▼ Takes a while to learn all the features

ATLAST

£39.95 - Rational Solutions - 0566 81511

Recently released revised version with new manual and a new price. *Atlast Plus* is a full featured database that is excellent value for money. It does what Cardbox did, with much better reporting facilities, and can sort too. You can do simple totaling of columns, but not general arithmetic on fields in a record. It claims to be a true 'relational' database like dBase II - it is a little grandiose, but a good general purpose database - recommended.

PLUSSES - MINUSES

- ▲ Good screen editing facilities
- ▲ Constants enable insertion of repetitive data
- ▲ Good on storage space - ideal for 8256 owners
- ▲ Handles names and addresses well
- ▼ Still no arithmetic calculation in field
- ▼ Setting up the database is at first confusing - function of 'SYS' file unclear
- ▼ Good but not that good

CAMBASE II

£49.95 - Cambrian Software - 0766 831878

New version of the old favourite PCW database. Most important change is the Copy Filespace facility. You can set up a new database with potentially more entries than you've made provision for using the information from the original database. You can also change the fields to suit another set-up.

PLUSSES - MINUSES

- ▲ Quick and efficient to use
- ▲ You can set up a database blueprint (Filespec) which you can test thoroughly before entering data
- ▲ Includes powerful features like conditionals, loops, field validation, and specified layouts
- ▲ Simple parts of the program are well-covered in the manual
- ▼ Can't use the memory - bad news for 8256 users
- ▼ You have to guess how to use the advanced features
- ▼ Not much room for prompts
- ▼ Tendency to crash occasionally in Filespec

LocoFile

£29.95 - Locomotive - 0306 740606

The indexed pop-up database that runs from within LocoScript 2 and that goes even further toward turning LocoScript 2 into a completely integrated software package.

PLUSSES - MINUSES

- ▲ Very easy to use
- ▲ Unusually efficient use of disc space
- ▲ Can alter existing index - a very powerful feature indeed
- ▲ Automatically upgrades your LocoScript, LocoMail and LocoSpell to version 2.2
- ▲ Sample databases help you get a feel for the program
- ▼ Very flexible when designing the record format
- ▲ Carries out searches on partial strings - ideal for when dealing with incomplete information

▲ When combined with LocoMail, it becomes utterly indispensable

▼ Play it isn't a stand-alone database to be used with other word processing packages

CHIBASE 3.0

£29.95 - Chiasma - 06333 60996

The updated version of the 'free format' database. You type in the text mark the words to be indexed and treat the file as a database. The updated version allows you to import and export ASCII data files and a chain delete option enables you to work your way methodically through the database deleting the records you don't want while keeping those that you do.

PLUSSES - MINUSES

- ▲ Good address, sort and recall features
- ▲ You can edit without a word processor
- ▲ Searches quickly through data
- ▲ Great for storing large amounts of data where the subject matter is variable
- ▲ Useful record template
- ▼ Expensive
- ▼ Can't run from m drive

DELTA

£99.95 - Computer, 04688 25925

Delta is another of the heavyweights, like dBase II and Concord, but unlike them is fully menu driven. Although the screen layouts are fully flexible, there is a default "quick" layout so you don't have to sweat at defining your own. It could use better record indexing facilities. Particularly good for writing applications, once you have ploughed through the large manual.

PLUSSES - MINUSES

- ▲ Records can contain up to 90 fields, plus groups of fields that may be repeated
- ▲ Screen layout can be user defined, or "quick" mode used
- ▲ Single-page letter writer provides detailed mail merge
- ▲ Processes can be defined, and run from user defined menus, for ease of use by others
- ▲ Very full, and quite readable, manual
- ▲ Only one field may be used for indexing
- ▼ Very big program - a PCW8256 would be hard pushed
- ▼ Some of the menu operations are unforfeiting of errors

POCKET INFOSTAR

£69.50 - MicroPro/DRA - 0386 84181

Consists of two large programs, DataStar and ReportStar (both available independently). DataStar is a conventional database, with screen card layout and indexing. ReportStar then generates the printed output, either from DataStar or CalcStar files. Powerful if you can use them, but the suite is horribly overcomplicated, and the documentation just incomplete.

PLUSSES - MINUSES

- ▲ DataStar is a quite good database with indexing and calculated fields
- ▲ "Transaction processing" feature allows cross-referencing of data files
- ▲ Can be integrated with other Pocket products, eg WordStar.
- ▲ Can take up to 255 fields per record
- ▲ Two-volume manual set is very badly organized
- ▲ There are separate programs to run for form design, data entry and reporting
- ▼ Operation is all by obscure command keys, e.g. in WordStar

GOOD SOFTWARE GUIDE

CARDBOX-PLUS

£99.95, Business Simulations, 0692 863105

Business Simulations are the company who actually wrote the successful Cardbox database, and they are the sole distributors of their enhanced version Cardbox-Plus. Disappointingly, still no field totalling facilities, but it does boost sorting, index boxing, disc management and an additive feature as extras to Cardbox. The ultimate straight card index, if you have the money.

PLUSES - MINUSES

- ▲ All the facilities of the very successful Cardbox
- ▲ Cards can be sorted into order for browsing and printing
- ▲ "Autosave" regularly stores the data to disc in case of mishap
- ▲ Files created by Cardbox can be read
- ▲ Full and good manual, although the tutorial is at the end
- ▲ Still no way of performing numeric calculations
- ▼ A lot to pay for a few little to the basic Cardbox

DBASE II

£99.00, Ashton Tate, 0628 33123

The WordStar of database packages. Recently licensed "cheaply" for Amstrad machines, Dbase II is a market leader in business computing. As you would expect, this means it is very powerful but very complex. It has a procedure language to allow you to write programs to manipulate the data, and you can construct index files for really fast access to large databases. If you can make the effort to learn it, it'll serve you well.

PLUSES - MINUSES

- ▲ Powerful command language for customised programs
- ▲ Indexing facility makes large databases fast to handle
- ▲ Can handle very big databases
- ▲ The data can be fairly easily altered after its entry
- ▼ Manual is daunting (but there are plenty of independent books on the market)
- ▼ Can't easily alter the screen record layout
- ▼ An expensive package, you still only get 32 fields per record
- ▼ Generally unfriendly unless you have some programming skills

FT=DB

£29.95, Encyclosoft, 0270 811890

A free form database like dBase, but instead of typing your text into the database itself, you create it on a wordprocessor first of all. Once done and edited to your liking, you mark all the words you want to be used as keywords (still in your word processor) and then read it into FT=DB. Now you can treat it as a database: compile indexes, search for phrases and so on, all quite efficiently.

PLUSES - MINUSES

- ▲ Easy to use
- ▲ Versatile retrieval system over several text files
- ▲ Inexpensive
- ▲ Can move between index and text at will
- ▼ No editing facilities within FT=DB

FIRST BASE

£99.95, Minerva, 0392 3756

Billed as a simple database for the first time user, First Base is quite a competent cheap card index. The manual is computer printed, and weak on diagrams which doesn't help things. One weakness is getting printed results out of First Base: either you settle for crude lists, or you have to create a template in LogoScript which is awkward to do. But overall, for non specialists and beginners, it's pretty good value for money.

PLUSES - MINUSES

- ▲ Can alter the index field at any time
- ▲ Simple to use screen editing makes data entry easy
- ▲ Good value as a simple card index lookup system
- ▲ Easy to browse through picking out a set by hand
- ▲ Manual is badly laid out and generally difficult
- ▼ Producing printed output is awkward

SMARTCARD

£59.95, Focus Computers, 0272 420109

A conventional card index database which is now the nearest thing available to Cardbox. Small and fast, you can sort the records up to three fields and do simple arithmetic in fields. Can't put background text (eg. titles) on records or printouts.

PLUSES - MINUSES

- ▲ Good clear screens
- ▲ Plenty of on-screen help
- ▲ Fast and high capacity
- ▲ Easy to use
- ▼ Can't put background text on printed records
- ▼ No way of exporting data for mail merge

DATASTORE II

£39.95, Digita, 0395 45059

Another standard database, written in BASIC and using Mallard's famous JETSAM commands. Is therefore slow in some parts though version 2 is considerably faster than 1. Simple to use, has calculation facilities and a good control over the printed output - your printouts can be made to look very impressive. You have to set the maximum number of records you want before you start, which is tedious, and browsing is slow.

PLUSES - MINUSES

- ▲ Good range of print format commands
- ▲ Simple to use
- ▲ Calculation facilities - OK for accounts use
- ▲ Nice touches on text automatically adjusts size to fit printout
- ▼ Must set max. no of records on setting up database
- ▼ Only two print formats per database
- ▼ Slow at browsing through

SAGESOFT RETRIEVE

£70.00, Sagesoft, 091 2131555

A high-power package that is relatively easy to use with pass-word security if desired, calculations, automatic counting or deletion of sets of records satisfying given conditions. It also has sophisticated sort and select commands, and can change the structure of an existing database. All this is done by a set of commands rather like a programming language. Printed formats are rather limited though and the program insists on DOS disk drives, making use on a 8286 impractical.

PLUSES - MINUSES

- ▲ Easy to use for a powerful package
- ▲ Advanced sorting and selection commands
- ▲ Subsets can be written to files
- ▲ Can count or delete subsets with one command
- ▲ Labelling/malmerging routines included
- ▲ Can change structure of existing database
- ▼ Possibly big program for 8286
- ▼ Printed output limited - must use mailmerge

PROTEXT FILER

£24.95, Amor (0733 68909), All PCs

This is a program which adds database features to Protext so that you can use a database system from within the word processor. It's very convenient for maintaining records without having to keep switching to a database package. Except for the sort program, you can work within Protext all the time.

PLUSES - MINUSES

- ▲ Very easy to use once you learn it
- ▲ Familiar Protext environment
- ▲ Good sorting facilities and name handling
- ▲ Can use Protext's database in parallel
- ▲ Import/export/print formats no problem
- ▲ No calculation facilities
- ▲ Selection facilities are a bit crude
- ▼ If you're familiar with Protext you can probably mimic a database yourself

MICROFILE

(Sold in the Micro Collection)

£49.95, Saxon Computing, 0401 50697

Microfile is a well implemented simple database, driven by plenty of menus and on-screen prompts. It's fast and has good screen control, although it has some size restrictions. Microfile comes as part of a software suite "The Micro Collection", which is good value (Microfile, Microwrite, MicroSpread, Flexilabel and Lock-It)

PLUSES - MINUSES

- ▲ The price includes competent word processing, spreadsheet labelling and editing programs
- ▲ Plenty of menus and on-screen prompting
- ▲ Very flexible formatting for screen layout and printing
- ▲ Numeric fields can be used in calculations
- ▲ Indexing is fast and can be on several fields
- ▼ Maximum number of fields per record is only 20
- ▼ Limited facilities for totalling up fields in a database

Educational

ANIMAL VEGETABLE MINERAL WORLD WISE

£14.95 each, Bournemouth Educational, 0794 523301

Aimed at the younger market, 7-15 year olds. Both these programs work by learning as the child uses them. Think of an

object and the computer tries to guess it. If it is wrong, the child is asked for a question which would allow the PCW to be right next time, and it learns.

PLUSES - MINUSES

- ▲ Can be used as many times as the child's imagination holds out
- ▲ Performance can be analysed by a teacher after a session
- ▲ As you build up a base of objects and questions, they can be used for review
- ▼ It needs a lot of typing, hence a lot of supervision
- ▼ The PCW starts with only two objects known, so it takes time to get going
- ▼ Documentation has hardly been altered from cassette-based versions
- ▼ Since it is for young children, more imaginative use of the screen would be nice

WRITE RIGHT

£9.99, Wadd Soft, 0253 721303

Program consists of 24 sets of multiple choice questions designed to test and improve the student's knowledge of the English language: sentence construction, spelling, punctuation, vocabulary, for example.

PLUSES - MINUSES

- ▲ Covers all the most important aspects of language learning
- ▲ Very addictive
- ▲ Good fun and easy to use

AMSTAT 1, 2, 3, 4, 6 and 7

£28 - £40, S C Coleman Ltd, 0530 415919

A suite of six statistical routines including a business analysis program, forecasting and resource management. Individual prices range from £27.99 to £39.95. Very sophisticated, and perhaps because of that, a little awkward for beginners.

PLUSES - MINUSES

- ▲ Good range of statistical functions
- ▲ Excellent manual
- ▲ Can produce good quality graphical results
- ▼ Some of the editing procedures are very long-winded
- ▼ Needs some expertise to use properly
- ▼ Weak on checking that input data is reasonable

2 FINGERS TOUCH TYPING

£24.95, lamsyst, 01 6075844

Despite its provocative name, a useful typing tutor in that it specifically caters for people who can already get by on keyboards with two fingers. You are gradually introduced to touch typing, so your speed doesn't drop while you learn. Fills a necessary slot in the Typing Tutor market.

PLUSES - MINUSES

- ▲ Suitable for improving two-finger typists without much drop in speed
- ▲ Full on-screen instructions
- ▲ Exercise material is interesting text, not letter drills
- ▼ Explanation text is annoyingly verbose in some lessons
- ▼ It doesn't always ensure that the cursor is properly aligned with the exercise text

ULTIMATE QUIZ

£14.95, David Greenhough Computing, 0274 640784

An educational aid for school-age children. Two quizzes on a multiple choice format are available on the one disk. The first one is a general knowledge quiz, the second is based on the Highway Code. You can play against a timer and can set the level of difficulty.

PLUSES - MINUSES

- ▲ Optional noises and crosses game included with either quiz
- ▲ Incorporates an editing file for easy updating of questions
- ▲ It's very versatile; up to 8 people can play
- ▲ Provides hours of general knowledge fun
- ▲ None of the questions are repeated
- ▼ Some of the questions are a little esoteric

SUPERMATHS

£16.95, Abacus Software, 0689 36293

Specifically designed for the PCW, this program exercises basic numeracy skills in children. Questions are asked in quick-fire volleys of ten and cover all four operations (addition, subtraction, multiplication and so on). Scores are automatically recorded.

PLUSES - MINUSES

- ▲ Special original Test and Worksheet modes included - the latter is ideal for teachers
- ▲ Very efficient scoring method
- ▲ Numeracy level is very basic
- ▲ New version has enhanced screen displays
- ▼ Some of the questions may start to look familiar after a while

Com-Stax

THE ULTIMATE SPACE SAVER

Interesting solution ... interesting price" says 8000 Plus

The new Com-Stax 8 Series is a unique stand that will stack your PCW 8256 or 8512 plus your keyboard and printer in under a quarter of a square metre of floor space. Its reclining monitor position and angled keyboard make the PCW even more user friendly. The Com-Stax is 98 cm high, 41 cm wide and beautifully finished in durable red, white or black lacquer, the unit comes to you as a flat pack but which is easily assembled in minutes with the allen key provided



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VISA

GOOD SOFTWARE GUIDE

LANGUAGE TUTOR

£19.95 each. Kosmos Software. 05255 3942/5406

Four programs with identical formats to help you learn French, Italian, Spanish and German. They can be used just as effectively by students of those languages learning English too. Very versatile series of programs and useful adjuncts to conventional language learning.

PLUS/US - MINUSES

- ▲ Can edit the lessons yourself to include new words
- ▲ Useful self-test option
- ▲ Completely bi-lingual packages
- ▲ Purely for learning vocabulary - no grammar lessons
- ▼ Would have been useful if they had also included cassettes

GIANTKILLER

£14.95. Topologica. 0733 244682

A mathematical adventure game loosely based on Jack and the Beanstalk. Lots of intriguing puzzles which should stimulate any student up to GCSE standard. Not the best adventure game ever written but great for making mathematics fun!

PLUS/US - MINUSES

- ▲ Puzzles pleasantly integrated into scenario
- ▲ Progression of game is simple and well defined
- ▲ Puzzles introduce a lot of valid mathematics
- ▼ Program understands only very simple commands
- ▼ Saving a position takes a while - can be tedious
- ▼ Won't be of particular help in exams

MATHS MANIA

£16.95. School Software Ltd. 010 353 6145399

For children between the ages of 8 and 12, this program offers 5 levels of difficulty in multiplication and 2 in division. A very good program for exercising basic numeracy skills and for practising some mental arithmetic.

PLUS/US - MINUSES

- ▲ Program provides a chirpy feedback on the score of the user
- ▲ Large attractive numbers appear on the screen
- ▲ Surprisingly enough, no addition or subtraction exercises are provided
- ▼ Screens could be made more visually exciting for the younger users

BETTER MATHS

£16.95. School Software Ltd. 010 353 6145399

A continuation of Maths Mania for the next age-group - 12 to 16-year-olds. Topics are very varied and cover, among others, statistics, simple interest and algebra. Each topic consists of a series of ten multiple choice questions. At the end of each set, the percentage scored is shown.

PLUS/US - MINUSES

- ▲ Realistic level of difficulty practised
- ▲ Program makes a first-class revision aid.

BETTER SPELLING

£16.95. School Software Ltd. 010 353 6145399

This is a spelling course aimed at the 8 to 16 age group. It consists of a series of well organised, short lessons each dealing with one topic, like plurals or which version of there/their they're to use in a sentence.

PLUS/US - MINUSES

- ▲ Well thought out lessons to emphasise particular points
- ▲ Teaches words in a sentence context as well as in isolation
- ▲ Lessons can be picked in any order from a menu
- ▲ Seems to be proof against mischievous key pressing
- ▼ Boring use of the screen doesn't grab interest
- ▼ No instructions come as to how to use the program

YES CHANCELLOR

£14.95. Topologica. 0733 244682

Wait! Don't skip over Yes Chancellor! because it calls itself an economic simulation program. Instructive and fun to use, you type in your annual budgets (tax rates, public spending, etc.) and see your country's plunge and the economy crash. Great for economics classes, also an amusing game in itself.

PLUS/US - MINUSES

- ▲ A simple but effective model of the economy
- ▲ Comes with booklet which explains economic principles
- ▲ Great for teaching economics and political pragmatism
- ▼ Can get boring as a game
- ▼ You can't adjust the model of the economy, so it can be too simple

IANKEY CRASH COURSE

£24.95. Iansyst. 01 607 0187

A fairly traditional typing tutor, taking you through basic keyboard exercises. There's a lot of explanatory text, which

gets in the way second time around. Definitely competent, but

PLUS/US - MINUSES

- ▲ Mostly avoids boring letter drills
- ▲ Very full on information guides you along
- ▲ Fast option cuts out some text if it gets repetitive
- ▼ Not particularly imaginative use of graphics
- ▼ It doesn't always ensure that the cursor is properly aligned with the exercise text

CHEMISTRY • BIOLOGY

£22.95. School Software. 010 353 6145399

These two are fairly traditional question-and-answer tests. You are faced with a choice of 10 topics, and then asked 10 or so questions each, where you have to fill in the blank in a statement. There are preamble notes beforehand and if you get it wrong you are given a clue. Aimed at 12-16 year olds.

PLUS/US - MINUSES

- ▲ Questions would challenge a GCSE pupil well
- ▲ Preamble notes introduce topics
- ▼ The fill-in-the-blank questioning style has little flexibility for different answers
- ▼ No option to add questions for a specialised syllabus
- ▼ Some careless errors, like incorrect facts and hard to decipher chemical formulae

MICRO MATHS

£24.95. LCL. 0491 573945

Supposedly covering 8 to adult ages, this seems an O-level type program, covering topics from calculus to tables. A good implementation on the PCW with proper use of the screen. Questions are picked at random from a pool, so may repeat but never run out. Replies to questions are typed in mathematical notation, like X 2-3.

PLUS/US - MINUSES

- ▲ You can pause to use BASIC as a calculator while you think
- ▲ 'Unlimited' question set
- ▲ Comes with a 'tree' book of AEB O-level questions
- ▲ Good hints and explanations when you get an answer wrong
- ▼ Questions repeat occasionally
- ▼ Some frills, like the clock and beeper, are annoying
- ▼ No flexibility to add questions for a particular syllabus



Communications is one of the glittering areas of computing, gurus would have you believe.

It can provide a fascinating hobby for 'hackers', but more importantly it is a valuable business tool.

'Electronic mail' is just what it says: you use your PCW to send messages, which can be documents thousands of words long, to others on the electronic mail system. The best known system of this kind is Telecom Gold, which also allows you to send telexes. Another major system is Prestel, which is more of an information provider - you can read share prices, weather information and other news direct from your phone line.

For any professional service, you pay a registration fee, plus a connection charge - typically around 10p per minute you use the system.

Of course, your phone bills are extra. For hobbyists there are also 'Bulletin boards', which are effectively a kind of private electronic mail system run by a system operator (a 'sysop' to those in the know).

To use any service, you will need to buy a modem and an interface. A modem allows you to send computer signals down a phone line and the interface gets the signals from your PCW to your modem. The pair will set you back £200 or more. Once done, you need some software to allow you to send and receive data and it is this software

reviewed below.

Electronic mail services just send strings of characters to and fro, whereas Prestel is a 'Visualdata' system, meaning it sends pictures and graphics too. Software needs to do more to receive Visualdata graphics, so if you want to use Prestel make sure your software is up to it.

8256UKM7.COM

Public domain (ie. free!)

PD software documentation is often poor but this program has an above average document file. UKM7 was written to support ASCII file transfers using error correction and as a dumb terminal either for use over the phone or between two Amstrads. Between two PCWs file transfer is possible at a staggering 31,250 baud which is even faster than PPT! Easy to use for beginners and better than KERMIT, UKM7 provides a cheap and excellent way to communications after you've got fed up with the PCW's MAIL232, 8256UKM7 is available from the Public Domain Special Interest Group, or most bulletin boards supporting the PCW machines.

PLUS/US - MINUSES

- ▲ Cheap! (the price of a phone call)
- ▲ Easy to use, and helpful menu
- ▲ Both CRC and Xmodem protocols supported
- ▲ Single file and Batch Mode transfers
- ▲ 'Quiet' mode for slightly faster transfers (on-line transfer progress report disabled)
- ▼ Only ASCII, no Visualdata
- ▼ You need to find a PD software source (ie. use a modem and MAIL232 software)

DIALUP

£89.99. PMS Communications. 021-643 7688

Offers both E-mail and Visualdata operations. Very easy to use, and offers an XMODEM transfer protocol unlike Sage CHITCHAT. If you are buying a modem too there are some cut-price bundled deals to be had, eg. the Miracal Technology W54000 modem.

PLUS/US - MINUSES

- ▲ Simple to use
- ▲ Comprehensive file transfer commands, including XMODEM and the increasingly popular KERMIT
- ▲ Runs from the M drive
- ▼ Manual is not PCW specific, and the references to 5.25" discs are tedious

CHITCHAT

AIL/VIEWDATA/COMBO

Sagesoft. £69.99/£69.99/£99.99. 091 2131555

Two communications programs for the 8000 series machines that have been around for a good time now. Most of the features you will need are here: message text editor, pre-programming unattended tasks (if you use a suitable 'Intelligent' modem), directory of stored numbers, copy to printer, and a very useful command time clock so you can watch your phone bill climb! E-mail is used for simple text phone links like Telecom Gold, whereas you'll need Visualdata if you want to use Prestel.

The Combo pack contains both E-mail and Visualdata.

PLUS/US - MINUSES

- ▲ Good range of pre-programming documentation
- ▲ Easy for first timers to use
- ▲ Built in text editor for pre-sending message preparation
- ▲ Pre-definable tasks executable at any preset time if unattended
- ▼ No error corrected file transfer (ie. Xmodem or CRC)

COMM+

£86.25. NewStar. 0277 220573

This single package combines both ASCII and full Visualdata block graphics and Teletextware downloading. A very powerful command language allows you to look for particular messages coming in and take actions, even while doing other things. Its use is only limited by your programming ability.

PLUS/US - MINUSES

- ▲ Very comprehensive and well indexed in-bound manual
- ▲ High quality Visualdata graphics
- ▲ Well presented on-line help menu for use by beginners
- ▲ Autodialler program works with most manual modems
- ▲ Teletextware downloading facility, with CRC/Xmodem checking
- ▲ Very powerful command language, doesn't need much programming skill to learn
- ▼ Not recommended for absolute beginners to communications

Programming

Programming languages come as either 'compilers' or 'interpreters' - compilers pre-process the program into machine code, so generally tend to be considerably faster. The PCW's standard Mallard BASIC and LOGO are both interpreters, on the other hand. Put simply, this means that each line from a text file full of line by line instructions is taken and interpreted individually. These languages, not surprisingly, tend to be much slower. Compilers are generally more cumbersome to use than interpreters, but their benefits are obvious.

With language compilers in particular, it is difficult to know exactly how reliable and efficient they are without spending many weeks working with them - near impossible for the purposes of a brief review. If you have regularly been using a specialised programming language over quite a long period of time and have any comments that you think would help us compile a good software file entry for it, we would be only too pleased to hear from you.

ALL YOU EVER...

£24.95. CP Software. 0993 823463

Program is ridiculously entitled All You Ever Wanted To Know About Graphics, the Universe and Everything on the PCW 8286/8512 but were Afraid to Ask. It's for the experienced programmer who needs fast, smoothly-flowing and professional-looking graphics output. It has a library of machine code routines which you can use in any language from Mallard Basic to machine code.

PLUSSES • MINUSES

- ▲ Graphics of same standard as those found in professional packages
- ▲ Demo programs included on the disk
- ▲ Routines are very wide-ranging
- ▲ Excellent value for money
- ▲ New routines of latest version concerned with printer control
- ▼ Not recommended for beginners
- ▼ Cumbersome to use from BASIC

PASCAL/MT+

£45.00. Digital Research. 0635 53499

A full implementation of ISO standard DPS/7185 Pascal with a number of extremely powerful additions. Is very good for large complex applications - both data-processing and system control.

PLUSSES • MINUSES

- ▲ A very powerful tool for the serious software writer
- ▲ Unlimited program size with modular development and use of overlays
- ▲ Built-in assembler
- ▲ Improved string handling (over standard Pascal)
- ▲ Choice of BCD real numbers for commercial/financial use
- ▼ No built in text editor - will need to operate separately
- ▼ Compiler in general and the manual in particular are not for beginners
- ▼ No graphics

MIX C

£29.95. Advantage. 0242 224340

American C compiler. You can buy a full screen editor with it for £19.95 extra. Also machine code assembler & examples for £9.95 each

PLUSSES • MINUSES

- ▲ Features a C tutorial
- ▲ Comprehensive implementation and massive manual
- ▼ Not for the newcomer to programming

DEVPAC 80 MKII

£49.95. HiSoft. 0525 718181

Version 2 of the PCW hacker's first choice of development system. Substantially upgraded from the original with a new quite powerful debugger, and a Mini Office-style main menu from which to run the individual utilities or your own finished programs.

PLUSSES • MINUSES

- ▲ Powerful assembler producing REL files
- ▲ Good hex facility for BASIC programmers
- ▼ Text editor antiquated and clumsy
- ▼ Weak monitor

HISOFT C

£39.93. HiSoft. 0525 718181

A very good C compiler, fast, produces good compact code.

PLUSSES • MINUSES

- ▲ Compiles program into ordinary CPM COM file
- ▲ Produces compact code
- ▲ Fast and inexpensive
- ▼ No floating point arithmetic

LFORTH

£19.95. HiSoft. 0525 718181

Forth is a simple language, somewhere between assembler and C. This is one of the few compilers available for the PCW.

PLUSSES • MINUSES

- ▲ Comes with a Forth editor
- ▲ Quick and efficient implementation
- ▼ Manual doesn't teach you Forth

PASCAL

£39.95. HiSoft. 0525 718181

HiSoft's Pascal is a complete implementation of Wirth's famous language. Not only is it one of the easiest compiled languages to learn but the version runs fast too.

PLUSSES • MINUSES

- ▲ Well integrated text editor - when you hit a compilation error you are returned to the correct point to edit it
- ▲ Short compilation time, economical on memory
- ▼ Manual makes no attempt to teach you Pascal

THE VICAR

£9.95. Iansyst. 01-607 5844

A programming tool for serious programmers. If you have a several-hundred line program held in several files on a disc, you can lose track of which variables are used where. The VICAR produces a concordance listing and other diagnostics, to help you find bugs and maintain the program.

PLUSSES • MINUSES

- ▲ Easy to use but still flexible through use of options
- ▲ Amstrad versions all at a special low price
- ▲ Good manual
- ▼ Only of value on large programs

▼ Limited value to most PCW users (except BASIC buffers)

MODULA 2

£45.00. FTL Grey Matter. 036453499

A compiler. Modula-2 is the successor to Pascal, good for large programs requiring separate compilation.

PLUSSES • MINUSES

- ▲ Full implementation with extensions.
- ▲ Includes libraries of predefined modules
- ▲ WordStar-type screen editor included
- ▼ Compilation process is longwinded and not for beginners

CBASIC

£45.00. Digital Research. 0635 35304

Compiler

PLUSSES • MINUSES

- ▲ Easier programming tool than conventional BASIC interpreter
- ▲ Very similar to BASIC, so easy to learn
- ▼ No text editor - must split your programs into 200 line chunks to work on
- ▼ Programs work no faster than they would in conventional BASIC, sometimes slower
- ▼ Non-programmers may get bored

MAXAM II

£49.95 (£69.95 inc. C). Armor 0733 66909.

All PCWs.

CP/M machine code development system incorporating an editor, assembler and monitor. It will allow you to disassemble extra memory on m drive.

PLUSSES • MINUSES

- ▲ Very versatile assembly language programming environment
- ▲ Flexible monitor capable of bank switching, conditional breakpoints and symbolic debugging
- ▲ Tailored to meet all CP/M Plus programming requirements
- ▲ Program can cope with some undocumented Z80 instructions.
- ▲ Program assumes basic familiarity with the Z80 assembly language.

ARNOR C

£49.95. Armor. 073368909

Good compiler with floating point arithmetic, but not as fast or as cheap as HiSoft C.

PLUSSES • MINUSES

- ▲ Excellent integrated text editor
- ▲ Floating point arithmetic
- ▼ Cumbersome to produce COM files; needs special run-time support program
- ▼ HiSoft C is faster and cheaper

N E X T M O N T H

The guide continues with the categories of SPREADSHEETS, GRAPHICS and GAMES. The month after that will cover WORD PROCESSORS, ACCOUNTS/PAYROLL, UTILITY and DTP software, and the month after that it's back to this month's topics.

Our intention is to keep publishing the three parts of the guide in rotation, updating it each month to include all new products. If you would like to see other sections of the guide, back issues of 8000 Plus are available at £1.75 each.

Meanwhile, if you are aware of any significant omissions or errors in the File as published, please let us know. We intend to maintain it as THE authoritative guide to PCW software.

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Steve Davis Snooker

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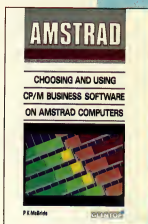
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POSTSCRIPT

Torrents of text tackled theosophically - even the technical

Yes, it's that time of the month again when a handful, from among the many thousands, have their words of wisdom scattered across the newsmagazines of England - and beyond. 8000 Plus is an international magazine these days with letters arriving from a variety of far-flung places.

However, it isn't where they come from that counts but what's in them. Send your correspondence, however interesting or informative, to Postscript, 8000 Plus, 4 Queen St, Bath, England, BA1 1EJ.

Living in hope

Although this is not a suggestion for improvement to 8000 Plus, which I regard as an excellent publication, I would like to know if you received a letter from me about five months ago.

The letter concerned the availability of RTTY software for a PCW 9512 linked to a YAESU FRG8800 radio receiver through a FIF CAT and Amstrad RS232C interface.

Glyn Upham
Ilminster
Somerset

8000 PLUS. Before my time, I'm afraid, but there is no PCW specific software aimed at radio amateurs that I know of, though there are bound to be some in the public domain. Perhaps someone who knows of such a thing would write in.

The bigger they are

Having upgraded an Amstrad 8256 with an additional disc drive (although not as yet with a memory upgrade), the second drive seemed to work far more slowly than the original A: drive. Stopwatch in hand, the three disc drives were each compared for the same three tasks on a 22k file (working in LocoScript 2):

- 1 'Finish Edit' on LocoScript 1 document, converting to LocoScript 2.
- 2 'Finish Edit' on LocoScript 2 document.
- 3 Scrolling through LocoScript 2

document using the down arrow key. The results of these tests were as follows:

Drive:	Test 1	Test 2	Test 3
M	64 sec	8 sec	49 sec
A	78 sec	19 sec	55 sec
B	98 sec	29 sec	61 sec

These show all too clearly that the new B: drive was always slower than the original drive, and for the most common task ('Finish Edit' from LocoScript 2 document) was half as slow again as the A: drive, and more than 3 1/2 times slower than M: drive.

Richard W Semmens
York

8000 PLUS. File-handling to and from disc is partly dependent on the size of the drive but more so on the position of the files on the disc. If they're near the outside it's quicker to get to them, and no file can be more than 40 tracks in on the A drive whereas they can be 80 in on the B drive. The fragmentation of the file is important too. Unfragmented files are faster to read.

Chip chat

I come to your magazine via Steve Patient's article in Computer Shopper and a customer who insisted on buying a 9512 instead of a PC. Despite my misgivings about the machine, it does seem to be well-supported by your advertisers, some of whom seem to know more about it than Amstrad themselves!

I like the 'clubby' atmosphere of 8000 Plus - this is conspicuously

absent from most PC magazines, and seems to suggest that there are more true enthusiasts for the PCW (perhaps you have to be...). I also approve of your attitude towards software reviews, as indicated in your reply in 'Tipoffs' (April) to the enquiry about accounting programs. I wish more periodicals were as conscientious. A review of these programs would be useful, though, as they are difficult for the prospective purchaser to evaluate.

By the way, what do you know about high memory faults in the 9512? I gather that a faulty batch of IC's is responsible for these, the symptom being difficulty in formatting high-numbered disc tracks (which looks like a fault).

Finally, I much enjoyed the LocoToy spoof. It certainly took me in at first - it was only when I got to considering how the machine would know which way up it was that I fell in!

F James Pickett
Isle of Wight

8000 PLUS. As long as you got here eventually, that's the main thing; and surely all your customers insist on PCWs?

We currently have a well qualified reviewer looking at accounting packages for us, hopefully for the July issue, and it should be definitive.

These memory faults you speak of are news to me. If anyone else has any knowledge of them, and no mere opinion please, I'd like to know more.

Finally, of all the reasoning offered concerning the LocoToy spoof, yours is the most elegant.

Big thought

Ever since you reported Howard Fisher forecasting a 512k expansion card ('Tomorrow's World' in your January issue) I have been scanning your adverts. I received my April issue on 22nd March, and delightedly posted my order the next day, marvelling at your combined perspicacity.

Today, 18 days later (all right, including bank holiday) nothing had happened, and in reply to my enquiry I was told that 'due to unprecedented demand' (familiar?) it will be about another ten days before it is my turn.

When will British companies learn that nothing is more damaging to a new product than fanfares and inability to meet demand?

Henning Brondum-Nielsen
Rannoch Station
Perthshire

8000 PLUS. It's become almost a tradition in the computer world to preannounce products; I blame a lot of it on Sir Clive myself. As to the expansion card, it does exist, some have been sent out and production is, as they say, being ramped up. I'm still waiting for mine, too.

Unsolicited testimonial

After PROTEXT and NSWEEP, both of which have received high praise in 8000 Plus, one of the most used pieces of software in my collection is ZBE. This is in the public domain and so cannot be faulted on price.

The program can be looked on as an upgraded version of SID which is already supplied with the PCW and is often used in the Tipoffs. It has several extra facilities that make it far more flexible when examining programs, and changing them.

For those who have not come across either program they are basically debugging tools that enable you to look within programs and if need be change parts of them. ZBE comes with a good 90 page manual on disc, SID only has a couple of unhelpful paragraphs in the PCW manual. Two commands that I have found valuable in ZBE that are not available in SID are F (find) and J (animated full-screen debugging).

F will look for alphanumeric strings, HEX numbers, DECIMAL numbers and the addresses of symbols or any combination of these. This enables areas of text to be found so that messages that appear on the screen can be found. F can then help to find the area of

code that interprets key presses by looking for FE.58, for example, which is the code for CP 'X'.

These simple commands have enabled me to customise several pieces of software to make use of the PCW keyboard. Although I must stress that some understanding of machine code is required to know what to look for.

The J command has helped me understand the working of programs by displaying the program, working, in front of my very eyes, one command after another, while simultaneously showing the effect each command has on the various registers. Break points can be used to skip parts that you do not want to examine before using the J command.

There is a version of Z8E modified for the PCW available from the CP/M User Group's software library (or BB on 0753 868196).
G R Yorke
Newcastle
Staffs

8000 PLUS I had to cut your letter a lot to fit it in – but I know this to be an easy program to wax lyrical about; I got it years ago and had to modify it myself. It's probably the best monitor in or out of the public domain with some amazing features. For example, to name just twenty three of (cont. page 106).

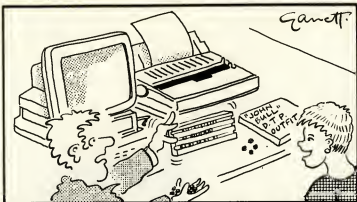
Information generator

I am a newcomer to the world of computing and have purchased an Amstrad 8256 on which to run a small motorcycle club of 250 members. What I would like to do if it is possible is to take the 8256 into the field and run it off of a generator, the idea being to get instant results on the day's racing. What do I need between the generator and the computer to protect it, and make it work?
C D Clifton
Feltham
Middlex

8000 PLUS From what I've been hearing about the insensitivity of the PCW to fluctuating voltages, I suspect you can run it from any 240V generator without further ado. (Having said which, if you plan to buy a generator get an assurance that you can run domestic electronic equipment from it first).

What do we do now?

I am a subscriber to 8000 Plus and last December ordered a PCW game from Comsoft, Coldstream, Scotland through an advertisement in your magazine. The problems which I encountered are documented in correspondence –



"I KNEW I SHOULDN'T HAVE BOUGHT THE CHEAP VERSION"

copies of which I enclose. Whilst the matter is self-explanatory I should like to make the following observations.

At no time have I had the courtesy of a reply from Comsoft. I have rung them on numerous occasions (at no little expense) and they keep referring me to a firm called Copy Comm Software who, I understand, supplied the disc to Comsoft.

Repeated telephone calls to Copy Comm have elicited a variety of answers ranging from "You shouldn't need any instruction book" to "There is no hints mode on the disc as it was copied from a bigger one and there is no room for it on a 31/2" disc! All of which is extremely unsatisfactory.

I returned the disc to Comsoft by recorded delivery on 22 March 1989. I telephoned them ten days later and they told me that it had "just arrived" – but couldn't tell me what was happening.

As these two companies are regular advertisers in your magazine, I should be grateful if you could exert a little pressure to bring this matter to a satisfactory conclusion.

Patrick Read
St Saviour's
Guernsey

8000 PLUS When Infocom pulled out of the PCW games market (booh, hiss) it looked as if two of the best adventure games ever would be lost to us. (Leather Goddesses of Phobos and Hitch Hikers Guide to the Galaxy) so six brownie points for any kind of continuing availability. However, when the goodies arrived at Copy Comm I proved to contain PC documentation, and so has now been withdrawn from sale. As far as we know these two games cannot now be bought anywhere.

Personally, if my choice was between having something I want, but imperfect, or not having it at all, then it isn't much of a choice, is it? If you feel it isn't fit for the purpose for which it was sold then you must demand your money back – what else can I say?

Meaningful

A quick glance at a couple of issues of 8000 Plus reveals the drawback of relying too heavily on spelling checkers: breath for breathe, computes for computers, practise for practice. All good words, but wrong.
Bob Warwicker
Oxford
Oxon

8000 PLUS Cursors!

No fun any more

I was about to write a few months back, when there came the announcement of the change in editor. I thus decided to give you a chance to make a change, but things have not improved and so I am putting cursor to greenscreen. Let me establish my credentials by saying that I possess and regularly use every issue (except the legendary No 2).

My plea is for a reduction – or better still cessation – of the 'jokey' headings to articles, paragraphs and pictures. I fully understand the desire to lighten the presentation of a moderately cerebral subject, but there are limits, and I am rapidly approaching mine!

It's a good game. It's a technical subject. Why break your neck trying to be funny?
D B Minterne
Dorchester
Dorset

8000 PLUS You've bought every issue – if only we could get it so wrong for everyone. To answer your question though, serious can too quickly become tedious; we try to get our facts right and present information clearly but, equally, we try hard not to take life too seriously. Look what being too serious did to Hemingway.

Upwardly mobile

Having read an article on memory upgrade in the June '87 issue I

decided to have a go. Great, one of the best things I have got for my 8256 is those little chips. Although the price of the kits has gone up drastically I found some individual chips, as mentioned in the miser note, to be cheaper.

The next thing for my upgrade was a second drive. I didn't want another 3" drive and having read Steve Patient's article in the January '89 issue I decided to go for the 40/80 switchable 5.25" external drive with its own PSU.

However, I did not want to pay £189 + VAT to buy one from Peartree or Pace. So I looked around for a while and then found VOLTACE, a company in Baldock, Herts.

VOLTACE sold me a 5.25" 40/80 switchable external drive with its own PSU and connecting cable. It was not at all difficult to connect the drive: just put on a plug, and having left the drive connector out of the PCW casing while doing the memory upgrade (as recommended in the memory upgrade article), connect the drive to the PCW connector and boot up.

The cost of the drive was only £115 inclusive of VAT and postage. The drive is not an inferior make, it's a Teac drive which is just about the best. With the case, PSU and cable being assembled to the drive by VOLTACE, it just couldn't be easier.

I would like to thank you and your magazine for all the assistance and I hope that this letter may be of some use or interest to you.
P J Entwistle
Stanmore
Middlex

8000 PLUS We're always interested to hear from anyone for any reason: it's especially good, however, to hear from those who feel we've helped them.

Upgrading PCs isn't nearly as difficult as it might at first seem, and memory upgrades are easily the most cost effective way of increasing the functionality of your PCW.

Irritating practices

I find it disgusting that companies can advertise products at bargain rates in your magazine; then when you place your order by credit card they invoice you at whatever price they choose on the day.

On page 32 of your April issue, Copy Comm Software advertised discs at £11.95 for five. After TWO weeks the order at last arrived without any explanation and I discovered that they had taken the liberty of charging £13.95.

C Stirling
Fife

8000 PLUS Copy Comm say that Amsoft discs (£11.95) became unavailable after the advertisements went in, so they were supplying Maxwell discs instead, which are dearer. All telephone callers are being advised of this while mail orders are being supplied at the prices quoted on the orders. Yours seem to have slipped through and I should have a word with them about it.

It is in fact illegal for a company to take more from an account than the buyer has authorised.

Chickens revisited

Now that you have had your cheap laugh at the expense of John Melvin (Headless Chicken mode, PS issue 32) may I ask for an answer to his perfectly reasonable and sensible question?

The question has been the subject of much serious investigation for some years, with a lot of considered opinion that there seems to be some concern regarding radioactive emission from VDUs.

Do you publish personal criticism?

Lee Lee
Kenton
Middx

8000 PLUS Yes, I publish personal criticism.

I get a lot of letters that I can't believe are meant to be taken seriously, including a lot written, apparently, in all seriousness. I admit to misjudging this one but I would offer the explanation that I thought 8000 Plus readers were better informed than other groups of computer users (see News PS issue this issue).

The original report linking miscarriage with VDUs came from Oakland, California,

(New Scientist reported this in June, 1988). The effects they claim to have observed have not, apparently, been noted elsewhere despite much research.

You are safer sitting in front of your PCW, pregnant or not, than engaged in most other activities. If you are pregnant - don't smoke or drink, these socially acceptable forms of slow suicide really are dangerous to unborn children

Mite be

I lost some files on Sunday; on Tuesday I thought let's see what happens, and put the disc in to verify. And it was verified. Unfortunately I had still lost the files. However whilst driving down to Somerton, knowing that in going down to meet the Intelligentsia I should need to be brighter than normal, I put my brain into gear and started thinking.

In the early days of Japanese camera imports there were occasional troubles with mysterious insects which got onto the pentaprisms and could be seen walking about. This I know as fact because I had one in my Pentax S3 in 1962. Could it be possible that very small mites could interrupt the magnetic messages from the surface of the disc? If a finger smear can do it, how about a mite squashed between the head which reads the message, and the disc; then when it has dried - no trouble again?

If you think that this is all a load of codswallop put it down to my having had a good day and being a little light headed from having a trip down to Somerton on a real spring day.

Derek B Lilly
Clevedon
Somerset

8000 PLUS Korean disc mites live exclusively on address marks, fortunately they are still very rare. Avoid inserting your discs in storage slots, you don't know who has been in there before you.

(This answer is a joke. Do not spray fly killer into your disc drives).

Dissatisfied customer?

As a reader from the start and a subscriber for two years, you are to be congratulated on an excellent magazine. But at times you start to reveal signs of complacency. Your reply to the software thief in the April issue was one of your more casual efforts.

By publishing it, the software houses have his name so we can now learn how really concerned they are. It is theft and they should prosecute both him and his

accomplices. But your last two sentences were unnecessary for they reveal a desire to score over easy targets.

Further on and to cap it all, you casually mention that you cut readers' letters. Whilst your readers would recognise this as a practical need, should you boast about it in an issue in which you have indulged your self-righteousness and missed a point into the bargain?

I have deliberately chosen a case where neither of us would disagree that your comments weren't deserved; merely that they were out of place. I am constantly surprised that a professional and established magazine such as yours often fails to recognise that it is easy to cause offence to readers who include women, Scots and those of us who use hard plastic cases. I accept that these might seem to be simple mistakes and your reactions will be that I am over-reacting. A small point maybe - but is it?

George Daulby
London

8000 PLUS This was a very long letter, but I feel the points of interest to our readers are still here; that's one of the jobs an editor does - not something I was boasting about, merely a point of information.

As to the strangely naive thief, the software house concerned are in touch with him. I didn't see my comments as scoring points; since it is in the nature of things that I have the last word, doing so is too easy to be satisfying.

Your last point on causing offence to women and Scots (for example) is a strange one. I am a man (on good days) yet don't feel jokes about men are personal attacks, after all, I'm also a writer, a jogger, an Englishman, over thirty, a father, a science fiction reader and many other things beside. One can only feel sadness for those who feel they have such a narrow and specific identity that any joke concerning it must be a personal attack.

Letter from America

After I accidentally tried to copy The Most Important Disc In The World onto itself one morning at about 1:30 am, my heart sank! The next day, when all thoughts of suicide had passed (well, most of them anyway) I scouted through my last issue of 8000 Plus and found a review of PCW Toolkit by Moonstone computing, and made arrangements to obtain a copy.

The program did everything it promised, and the manual was very well written for the novice programmer. In fact, I did manage

to save about 98% of the data on the disc, and did it on the first night that I tried the program. This is the sort of product that everyone feels they will never need, until they see the error message on the screen. I recommend it to every PCW user as an early purchase. It may prove to be the best £19.95 every spent!

I have been a fan of 8000 Plus for some time now. After I purchased my 8256, I obtained copies of several Amstrad related magazines from England, and after reviewing them, chose to stick with 8000 Plus. I have friends and relatives in England so I have a copy sent to me monthly along with an assortment of newspapers and other magazines.

I located my primary mail order supplier, MJC Supplies, through their ads in the magazine. I wrote to every firm which advertised "Export Orders Welcome", and MJC was the only one which responded. I now buy programs for myself and two other users through MJC, and have mentioned them in the newsletter for a users' group to which I belong.

I have enjoyed 8000 Plus and feel that I have gotten more out of my machine by reading your magazine. I look forward to more of the same.

Peter Little
CA, USA

8000 PLUS Perhaps not exactly the same, we try to vary the order of the words each month - but we keep the jokes the same.

Map happy

Could you please tell me if there is a graphics or drawing program suitable for constructing maps. I need to be able to draw maps of imaginary places (countries as well as towns) and would like facilities which would provide me with cross-hatching and/or other symbols useful for showing features such as marshes, mudflats and mountains etc. I have a PCW 8256.

Cathie Gill
Methick
Aberdeenshire

8000 PLUS Constructing maps on the PCW is one of those things no-one has ever asked about before. Presumably, you wish to be able to alter it fairly frequently, either adding and subtracting symbols or trying new layouts.

The best way to do it would be with a drawing package, and since you'll need to work freehand rather than to an engineering style I would suggest something like Stop Press. How about letting us see the results?



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PROTEXT COMPETITION

The great new 8000 Plus competition for the nearly intellectual



Yes, this is only the first of our great new competitions in which we are offering some of the very best products from top companies for absolutely nothing.

This month you have a chance at three best selling products from Amstrad: Protext, the fastest word processor on the PCW market (and on most other machines too), its little brother, Pocket Protext, every bit as fast but not quite so full-featured, and Prospell, the fastest spell checker you can buy – or win.

All you have to do is decide who said each of these five lesser-known quotes and put

Quotes:

- 1/ Money can't buy you love.
- 2/ No man but a blockhead ever wrote; except for money.
- 3/ Pan Am takes good care of you. Securicor cares. IBM says the customer is King. At Amstrad, we just want your money.
- 4/ It is a truth, universally acknowledged, that a single man in possession of a good fortune must be in want of a wife.
- 5/ Money is like muck; no good test it be spread.

People quoted:

- A/ Samuel Johnson
- B/ Jane Austen
- C/ Francis Bacon
- D/ Alan Sugar
- E/ Lennon-McCartney

the letter by the number in the correct order on a postcard. For example, if you think Francis Bacon said 'Money can't buy you love' then the first answer should be 1 – C.

Answers should be on a postcard or the outside of a sealed envelope along with your name and address (in case you win) and sent to Protext Competition, 8000 Plus, 4 Queen St, Bath, BA1 1EJ. All entries must be in by June 22nd 1989.

This month – next month

If you're wondering where the last part of the LocoFile tutorial has got to, never fear, it hasn't been forgotten, merely postponed. We shall still be covering all those nitty gritty file transfer problems but we thought you'd like a short intermission – no? Well we would.

What about our first DIY project? With houses getting smaller and smaller (or is it the children getting bigger?) few of us have any chance at a study (I always liked the American 'den'), so anything that tidies the place up is a must. Let's hear your ideas on this subject.

And while on the subject of ideas, we're thinking of running this competition as a regular feature and so we're looking for puzzles, enigmas, and conundrums suitable for the likes of us (not too difficult) and with a PCW bent. If you think you can come up with the goods drop us a line with some examples – your own, naturally. So there are two bites at the cherry: if you can't win the competition you might still be able to sell us a competition idea.

There hasn't been very much in 8000 Plus recently on programming languages (who said hurrah?) so we were especially pleased to be able to slip a little bit of Logo in disguised as an article on Artificial Intelligence; great stuff, eh?

One final thought: you'll have noticed a few changes creeping into your favourite magazine, hopefully all improvements, but the one we're most keen on is Improving News Plus so that it reflects the doings of PCW owners and users more closely: if you think you've got news – tell us about it.

Accounting software

For the serious businessman or budding entrepreneur Andrew Bibby reviews the software you need to run your business

PCW in control

The PCW can run a business in more ways than one. We look at how some companies are putting the PCW to work

HTB Review

We look at a drawing package for the designer

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Continuing our series on getting to grips with CP/M

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Straight from an expert – our new series by the author of CP Software's Lightning Basic extensions – great stuff, don't miss it.

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Still the only high-res graphics spreadsheet for the PCW family

The *Cracker* is a unique spreadsheet for PCW users. As well as providing the features and facilities of a full function financial and scientific spreadsheet, it can create complex graphs on the screen and (dot matrix) printer. The latest 'turbo' version has speeded up screen handling considerably, but still costs only £49.95 inc VAT...

- ❑ A new manual with comprehensive indexing and many examples makes the power of *Cracker* accessible to a wider audience.
- ❑ Suitable for simple adding up as well as complex structural analysis.
- ❑ High resolution graphics that can be used as a stand-alone graphics package or from calculated values:
Bar charts, stacked bar, hi-lo, pie, line, area, XY, LogX:Y, LogX:LogY
(With multiple labelling options)
- ❑ A very straightforward upgrade path to 16 bit editions on PCDOS and CDOS.

Powerful command structures

- ❑ DO-WHILE iterative loops.
- ❑ Day, date and timing functions:
DATE, DATEAFTER, DAYSAPART
DELAY, TIMELAPSE etc.
- ❑ Macro facilities ...and much more!

Cracker:

Original and still best

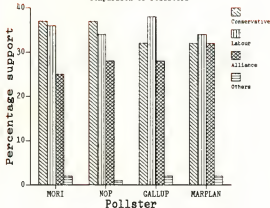
Cracker was originally created over 5 years ago by Ian Searle to provide himself with a range of facilities that he couldn't obtain in existing spreadsheet and calc programs.

So *Cracker* has one of the longest pedigrees in the business. The fact that it has maintained a consistent interface when the numerous enhancements and extensions have been added - without undermining the basic elegance and power of the product - is a tribute to the original concept.

Cracker 2 continues to evolve as a 'live' product under current development by its original author: few if any other full-featured spreadsheets for the PCW can make this claim.

OPINION POLLS

Comparison of Pollsters



Example plot from a PCW printer

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